

AGENDA

SPECIAL JOINT COMMITTEE ON EDUCATION

June 15, 2021

**Aldermen Long, Terrio, Shaw
School Committee Members Want,
Perich, O'Connell**

4:00 p.m.

**Aldermanic Chambers
City Hall (3rd Floor)**

1. The Clerk calls the meeting to order.
2. 2. Due to the COVID-19/Coronavirus crisis and in accordance with Governor Sununu's Emergency Order #12 pursuant to Executive Order 2020-04, this Committee is authorized to meet electronically.

You will be able to view and hear the meeting on Manchester Public TV, either on Channel 22 or on MPTV's website. To dial in to the meeting using your phone, call +1 (786) 535-3211 and enter access code: 199-728-245 when prompted.

3. The Clerk calls the roll.
4. Nominations for Chairperson.
5. Discussion regarding the Facilities Study.
6. If there is no further business, a motion is in order to adjourn.



MANCHESTER SCHOOL DISTRICT
SCHOOL ADMINISTRATIVE UNIT NO. 37
20 Hecker Street
Manchester, NH 03102
Telephone: 603.624.6300 • Fax: 603.624.6337

John Goldhardt, Ed.D.
Superintendent of Schools

May 19, 2021

Board of School Committee Members,

I'm excited today to bring you my recommendations for long-term facilities planning for Manchester School District.

Let me begin by making it clear that these recommendations are not intended to be an all-or-nothing plan, nor are they intended to be the final word on the subject. This is intended to be a starting point.

I am asking the Board of School Committee to receive these recommendations and begin the process that I've laid out, which would begin with seeking public feedback.

There is a lot to absorb in these recommendations, and some will undoubtedly be considered controversial. I urge board members and the public to approach this with an open mind, and remember why we're considering this. As a community, we've long put off making the difficult decisions on our school facilities, putting short-term savings before the long-term good.

What we're left with are aging buildings that are costly to operate and are not suitable as a modern educational facility. This hurts not just our students and staff, but our community at large, because our public schools are not the draw that they could be, and should be.

A great deal of work has gone into these recommendations – including the consultant reports on facilities and demographics – however, we have truly yet to begin. To do something of this scale will require a community lift, but it will benefit our city for generations to come.

We have no time left to waste – I believe it's time for us to get to work.

Sincerely,

Superintendent John Goldhardt, Ed.D.

It is the policy of the Manchester Board of School Committee, in its actions, and those of its employees, that there shall be no discrimination on the basis of age, sex, race, color, marital status, physical or mental disability, religious creed, national origin or sexual orientation for employment in, or operation and administration of any program or activity in the Manchester School District. The 504 and Title IX Coordinator is Mary Steady.

Manchester School District: Your BEST Choice



Recommendations to the
Board of School Committee
Concerning Facilities and Programming

May 19, 2021
Presented by John Goldhardt, Ed.D.
Superintendent of Schools

MANCHESTER BOARD OF SCHOOL COMMITTEE

Mayor Joyce Craig, Chair
Leslie Want, Vice-Chair

Julie Turner, Ward 1

Peter Perich, Ward 8

Kathleen Kelly Arnold, Ward 2

Ben Dion, Ward 9

Karen Soule, Ward 3

Jane Beaulieu, Ward 10

Leslie Want, Ward 4

Dr. Nicole Leapley, Ward 11

Jeremy Dobson, Ward 5

Kelly Thomas, Ward 12

Dan Bergeron, Ward 6

Joseph Lachance, At-large

William Shea, Ward 7

James O'Connell, At-large

TABLE OF CONTENTS

Background.....	Page 1
Part 1: Purpose.....	Page 5
Part 2: High School Recommendations.....	Page 6
Part 3: Middle School Recommendations.....	Page 13
Part 4: Elementary School Recommendations.....	Page 15
Part 5: Recommended Timeline.....	Page 18
Appendix A: MGT Final Report.....	Page 21
Appendix B: Davis Demographics Summary Report.....	Page 112
Appendix C: Proposed High School Credits.....	Page 138
Appendix D: Magnet School Theme Considerations.....	Page 148

BACKGROUND

In the winter of 2020, the Finance and Facilities Committee started having discussions concerning the use of current facilities, and in particular the amount of empty space in the city's high schools. These conversations led to an RFP (Request for Proposal) for a district facilities audit. After reviewing the proposals from firms, along with presentations and interviewing the firms, the Finance and Facilities Committee recommended to the full Board that MGT be hired to complete the facilities audit, and the full Board supported the recommendation.

MGT completed interviews, building inspections, and reviewed previous facilities studies and deferred maintenance plans currently in place. Several drafts of the MGT study were presented to the Board with feedback and questions given to MGT. These robust and lively conversations allowed the Board of School Committee to seriously analyze the state of the district's facilities and their alignment to the educational mission of the district. In addition, Davis Demographics was hired to complete a professional demographic study of the district's enrollment data, city population data, and other vital statistics as part of a 10-year enrollment projection for the district.

Ultimately, the Board of School Committee asked Superintendent Goldhardt to synthesize all the data from these reports, along with the educational needs of the district, and provide the Board of School Committee with recommendations concerning facilities and programming.

A few key data points that are an important part of these recommendations include the following:

- The average age of school buildings in the Manchester School District is approximately 70 years old.
- According to Bauscher and Poe (2018), the life expectancy of the average school building is approximately 50 years.
- Older school buildings are less efficient and more expensive to heat, light, and maintain.
- There is only so much that can be done to retrofit older buildings to accommodate technology needs for today's learners.
- Demographic data shows that enrollment trends in the district will decrease at least 12% over the next 10 years.
- The number of families with school-age children in Manchester is decreasing.
- Statewide, school enrollment is decreasing. In fact, other than the southwest and mountain west, school enrollment is decreasing nationwide.

- MGT estimated that the cost to the district for unused space in the district's schools is \$1.3 million per year.
- The district has never had a "line item" in the budget for textbooks. This has resulted in haphazard curriculum adoptions and inconsistent teaching methods. Savings accrued from better use of facilities can be used for textbooks and maintain an aligned curriculum.
- The district must "deficit spend" (borrow money) for the basic maintenance of school buildings so they can stay within both the revenue and spending tax cap. Deficit spending for building maintenance is not a sound accounting practice, and it can result in inconsistent and delayed building maintenance that costs more in the end.
- Savings in the more efficient and effective use of school buildings can be put towards deferred maintenance so the district does not have to continue the practice of deficit spending.
- In 2020, the Board of School Committee adopted the strategic plan, *Our Community's Plan for Manchester's Future of Learning: Excellence and Equity for all Learners*.
- The strategic plan includes the following key factors:
 - Magnet programs in schools
 - Right-sizing staffing for schools
- The high school graduation rate in Manchester has steadily decreased and is presently the lowest in the state.
- The cohort "survival rate" of Freshmen to their Senior year is currently not acceptable. Too many students are lost between their Freshman and Sophomore year.
- The current high school graduation requirement of the very minimal 20 credits is not acceptable. In fact, after the district lowered the standards for graduation credits, the graduation rate has gone down and not up.

BUILDING DESIGN AND STUDENT ACHIEVEMENT

According to an extensive study by the National Center for Education Statistics (Alexander & Lewis, 2014), more than half of all public-school districts in the United States reported the need to spend significant funds to bring their school buildings to the "good" level. The financial costs were much higher to bring them to the "superior" level. The same study also indicated that school districts in the Northeastern United States had at least 60% of its buildings needing repair.

Improving student achievement is vital for our nation's competitiveness and economic development at the local level. Scientific research conducted by Cheryan, Zeigler, Plaut, and Meltzoff (2014) shows how the school physical environment influences student achievement, and that students of color and lower income students are more likely to attend schools with inadequate

structural facilities. Key findings from the study's authors include the following:

- Classroom physical environments positively affect student achievement.
- The facility's structural features—inadequate lighting, noise, poor air quality, deficient heating, poor layout, use of space—can undermine learning.
- Students with more natural light in the school and in the classroom had higher math and reading scores than students who were exposed to less daylight in their classrooms.
- The school and classroom symbols, such as décor, color, furnishings, also influence student achievement.
- Evidence-based classroom design can maximize education outcomes for all students.

MAGNET SCHOOLS

The concept of Choice in education can mean a lot of things, and the term gets bantered a lot in public discourse – especially political discourse. For some, “choice” means giving public funded vouchers to parents to spend at any school they wish without restriction. For others, it may mean increasing the number of public Charter school options and expanding current Charter schools in place. **One of the underlying foundations of the recommendations in this report is giving Manchester parents more choice *within the district* with more flexible open enrollment policies.** One creative and innovative way this can be done is through a tenant of the strategic plan: **Magnet Schools.**

Magnet schools are free public elementary and secondary “schools of choice” that operate within existing public schools in a district—unlike private and charter schools, which are completely separate institutions. Essentially, a Magnet school has superior facilities and staff and have a specialized curriculum designed to attract pupils from throughout a city or school district.

Anytime we, as a district, can provide meaningful choices for our students and parents, the stronger we become. Magnets bring strong connection to the values and interests to the larger community. It brings awareness, excitement, energy, and recognition to both the schools and the community. It also provides students the opportunity to learn through a strong interest or passion area.

Magnet schools are both a neighborhood school and choice school for parents. Only two schools in these recommendations are 100% choice schools with no boundary. **In other words, any parent living within the traditional school boundaries of a Magnet school would have the choice to continue having**

their children attend that school or they could move their student to another school. The remaining spaces in the school would be open for any parent living within the Manchester School District to opt to send their child to the Magnet. If there was more interest than space, we would institute some sort of fair and equitable lottery system. If there were additional spaces after those within the district were able to enroll in the Magnet, those outside of the district would be allowed to enroll in the school, and if the number exceeded the number of spaces available, the same lottery system would be utilized.

Magnet schools are a more specific and effective “choice” because parents and students are attending based upon an interest in an overarching focus of the school and how learning happens there. Here are a few research findings from a compilation of six major studies on Magnet schools (Siegel-Hawley & Frankenburg, 2019):

- Magnets are associated with increased student achievement, higher levels of student motivation with school, higher levels of teacher motivation and morale, and higher levels of parent satisfaction with school.
- More students attend Magnet schools than Charter schools making Magnet the largest sector for school choice.
- While multiple studies suggest that Charter schools contribute to “white flight,” Magnet schools provide wide diversity more reflective of the communities they serve.
- In Connecticut, attendance at Magnet high schools had positive math and reading effects and in reading achievement in middle schools.
- Magnet school students generally report more positive academic attitudes and behaviors than non-magnet students.
- Magnet students are less likely to be absent or skip classes.
- Students in Magnets feel more connected to students of other races.
- Students in Magnets have been shown to graduate at much higher rates than non-magnet students – more than doubling the probability that a student would graduate in one California study.
- Magnet schools are effective tools for attracting and retaining households and students in urban districts.
- Magnet school faculties are more stable than non-Magnet school faculties, in addition to being more racially diverse.

PART 1: PURPOSE

As important as they are, these recommendations are not just about school buildings, cost savings, and overall economies of scale. What goes on *inside* a school regarding teacher quality, student learning, and a positive climate are the most important. However, it is very difficult to provide a 21st century education in 19th century and 20th century buildings that were designed for a factory model education. Students need more than lectures. Too many students spend most of their time inside a classroom, sitting in neat rows doing little to prepare them for life after high school – whether it’s college or careers.

Over the past century, education, and particularly high school education debates have focused largely on what we teach students (the curriculum) while ignoring *how* we design school itself. From a design perspective, our current debate is kind of like people arguing over the interior design of a house without considering whether it’s the right house. Why argue about furniture in the living room, the kitchen, and the bedroom (the curriculum) *when the house is old, falling apart, and not right for your family’s needs anyway* (the current state of our high school buildings and our high school model).

The purpose of these recommendations include:

- Aligning the buildings where students learn with what students should learn
- Developing economies of scale in our use of facilities so that financial resources that are currently used to sustain multiple facilities and programming can be reallocated to textbooks, curricular materials, building maintenance, and competitive salaries
- Making Manchester school buildings the most inviting places in the city where students are fully prepared for their future and where excellence and equity are fully in place in *every* classroom *every* day for *every* student.

There are many educational choices in the greater Manchester area for our families to choose from. The *ultimate purpose* of these recommendations is to make Manchester School District the **BEST CHOICE** for families when choosing where to educate their children.

There is so much potential for positive change in Manchester if we creatively address *how* we schedule the school day, *how* we build learning spaces, *how* we deliver content, and *how* we structure the role of adults in the school. The factory model of sitting in rows and focusing on compliance does not work, and it is not preparing students for their future. It is also uninspiring and boring. ***Unless we redesign the system, we are going to keep delivering less-than-optimal learning environments for students!***

PART 2: HIGH SCHOOLS

Why do students “do” high school? One hundred years ago it was quite clear: A high school education was essential to moving up the economic ladder and gave people a much greater chance of getting a high-paying job. Today, the answer is not so clear. We do know that a high school diploma and a college degree still correlate with increased earning potential over a lifetime, but it doesn’t set people up for a lifetime of work.

Two million high school graduates head off to college each fall, but after six years, fewer than half of them have completed an education program. Hundreds of thousands of dropouts struggling with crushing debt, and even those who graduate must pay off a low estimated average of \$29,000 during their early working years. In fact, 70% of college students, plus those who drop out, carry student loan debt (Meeder, 2016). While the United States once had the highest postsecondary attainment rate among all industrialized countries, now the attainment rate among young Americans has fallen far behind other countries (OECD, 2014).

Meeder (2016) claims there are eight underlying root causes that contribute to the problems in high school education:

1. Many youths don’t experience impactful career development.
2. The U.S. culture is dominated by “University-for-All” message.
3. Most schools don’t embrace employer perspectives on career readiness.
4. Too many youth are disengaged from learning.
5. Too many youth have weak academic skills and lack college readiness.
6. Too many students still drop out of high school or are pushed out of high school.
7. Very few high school graduates have well-developed career and technical knowledge.
8. Large achievement gaps that persist are linked to family income and race.

MSD currently has three traditional high schools and one choice high school.

- Manchester Central High School
- Manchester West High School
- Manchester Memorial High School
- Manchester School of Technology High School

Enrollment has decreased, and the preliminary Davis Demographics study (see Appendix B) predicts that enrollment will continue to decrease at the traditional high schools. On the other hand, Manchester School of Technology (MST) continues to increase in enrollment and has the highest graduation rate of the city’s high schools.

The MGT report (see Appendix A) stated that the district needed to “re-imagine high schools” in the district. Indeed, I would suggest that we go beyond re-imagining, and that instead, we have a **BOLD RE-START** of our approach to high school education in Manchester.

RECOMMENDATIONS

Recommendation #1

Consolidate the three traditional high schools (Central, West, and Memorial) into one large newly built 21st century state-of-the-art high school to be MANCHESTER HIGH SCHOOL.

- To make the large school more personal, and to better engage students in pathway planning and preparation, the school should utilize the Academy Model so students can be in smaller “houses” in their chosen potential career and college pathways. The proposed Academies are:
 - The Freshman Academy (for all Freshmen as part of a positive high school transition)
 - Academy of Engineering and Biotechnology
 - Academy of Government and Law
 - Academy of Finance and Entrepreneurship
 - Academy of Language and Humanities
 - Academy of Health and Medicine
 - Academy of Arts
 - Academy of Teaching
- The high school should be built on a property large enough to accommodate a 3-4 story building, ample parking, football stadium, softball and baseball fields, soccer/lacrosse/field hockey field, practice/Physical Education field, and if possible, space for an indoor swimming pool.
- The school must be large enough to *comfortably* accommodate at least 3,500 students.
- The historical Abe Lincoln statue at Central should be incorporated into the design and be a prominent part of the campus.
- From start to finish (design, land purchased, construction) the construction of new high school is a 3–5-year process.

WHY ONE LARGE TRADITIONAL HIGH SCHOOL?

1. The number of school-aged children in Manchester is decreasing, while the costs associated with running a school system are increasing.

2. Economies of Scale. The cost savings associated with consolidation can be used to enhance teaching and learning (no line item for textbooks, no line item for deferred maintenance). A tax cap budget cannot sustain several smaller traditional high schools.
3. Large schools can be personal schools. The way a school is organizationally designed, and the quality of teaching, are far more important.
4. More course offerings – including specialized course offerings.
5. Elimination of the duplication of services.
6. One feeder system. EVERY school in Manchester is a feeder school to Manchester High. Every school employee is focused on the prepared graduate in one aligned learning system.
7. Activity involvement is decreasing. Fewer students are involving themselves in school activities in our current system – not just athletics either. The added talents of all are synergetic.
8. A large school has the capacity to offer more specialized programs for students who are considered “disadvantaged” or “marginalized” and students with special needs. A wide variety of classes and activities make it possible for students to find their niche.
9. There is more diversity in the student body.
10. We get a re-start with high school education in Manchester.
 - a. Design of graduation credits and pathway courses (see Appendix C)
 - b. Comprehensive Guidance Counseling
 - c. Proactive approach to interventions, graduation planning, post-high school planning, course taking alignment to career and college pathways
 - d. More proactive approach to deficiency of credits. Credit recovery to be addressed early.
 - e. Small Learning Communities (Academies) within the school
 - f. Standards, grading practices, etc.
 - g. Freshman Learning Community area for transition
 - h. Competitive interscholastic athletic programs
 - i. Staff who come to work at the school will need to “buy-in” to the Academy model, the student-centered approach, and a focus on Career and College Pathways.

POSSIBLE ORGANIZATION

1. School leadership organization
 - a. One Principal
 - b. Six Assistant Principals (oversee student groups by alphabet and have the same students for four years)
 - c. Two one-year only Intern Assistant Principals (teachers on special assignment – in principal preparation program) to be rotated each year
 - d. Four “Dean of Students” (oversee by grade)
 - e. Four SRO’s
 - f. Four Full-time or Eight Part-time Campus Security (hall security – work with SRO’s, Deans, truancy, etc.)
 - g. One full-time District Athletic Director
 - h. One .50 Athletic Coordinator for Women’s Athletics (other .50 is teaching)
 - i. One .50 Athletic Coordinator for Men’s Athletics (other .50 is teaching)
2. Student Services and Support
 - a. 1:250 student ratio for Comprehensive Guidance Counselors
 - i. Assigned by alphabet
 - ii. Work with same students for four years
 - iii. Follow Comprehensive Guidance Model (75%+ of time on guidance, 25% or less on responsive services)
 - b. Work-based Learning/Extended Learning Opportunity Coordinator
 - c. At least 6-8 Licensed Clinical Social Workers
 - d. Four school nurses
3. At least three full-time Instructional Coaches (teachers on special assignment) who work with teachers full-time to enhance instruction (not evaluate)
4. At least two full-time Tech Support workers in the building
 - a. Troubleshooting
 - b. Tech issues
 - c. Provide assistance
 - d. Teach how to use equipment
5. A-B Block Schedule
 - a. Students have 8 classes, but attend 4 each day, thus “A” Day and “B” Day
 - b. 80-90 minutes in length
 - c. Competency Based Education (CBE)
 - d. Use of Engagement Structures

- e. Raise the Bar for Graduation Credits
- 6. “Right-sizing” Teaching Staff
 - a. Teach 6 classes (no more “duty”)
 - b. A-B Block Schedule – teach 3 classes each day with one prep period each day
- 7. Better Utilization of Space
 - a. Due to preparation periods, at least 35% of classrooms are empty during any given class period – wasted space and energy usage
 - b. Teachers given “office space” that is collaborative by department with secured areas for belongings and materials
 - c. Teacher is assigned to what room based on size and need of each class

Recommendation #2

Enhance and expand Manchester School of Technology High School by remodeling and repurposing Memorial High School to become the new MANCHESTER CAREER AND TECHNOLOGY HIGH SCHOOL.

- The Manchester Career and Technology High School will be a 100% choice school with no school boundary (just like MST).
- Add additional programming and certifications that align with industry need.
- Expand the school to be 800-1,000+ students.
- Utilize current athletic fields by adding athletic programs (based on interest) to MCTHS.
- Add a satellite campus (possibly a district-sponsored charter) at the Boston-Manchester Regional Airport for airline mechanics and airline pilot.

Recommendation #3

Remodel and repurpose the current MST building to be the centralized Manchester Pre-School.

- All specialized pre-school personnel at one location.
- All specialized equipment at one location.
- More supports for pre-school children.
- Designed specifically for developmental needs of pre-school children.
- Better design for safe drop-off and pick-up of children.
- This frees up 21 elementary classrooms across the district that are currently used for pre-school.

Recommendation #4

Repurpose and restore the Central High Practical Arts Building to be MANCHESTER SCHOOL OF THE ARTS (MSA) with an emphasis in theater, musical theater, technical theater, music, dance, and visual arts.

- 100% choice school with no boundary.
- Recruit and/or reassign the best faculty in the specialized arts areas.
- Comprehensive high school where all required core courses utilize the arts as part of the content and pedagogy.
- Decision will need to be made as to whether this will be a “try-out” closed enrollment arts high school, or an open-enrollment school of the arts.
- Develop partnerships with arts organizations and higher education institutions for work-based learning opportunities, extended learning opportunities, and college and career readiness.
- Advanced Placement (AP) and Dual Enrollment courses offered.

Repurpose and restore the Central High Classical Building to be used as the District Office, additional learning space for Manchester School of the Arts, and space for Bridge Academy and Manchester Online School.

- Based on Recommendation #5 below, there will be a need for a new District Office space.
- The Classical building should be preserved, and ownership kept within the district. The building has significant historical value and was built as a commitment to education in Manchester.
- The Bridge Academy needs expansion and space, and based upon lessons learned during Covid, there is a need to develop a robust and high-quality Manchester Online School as an additional choice.
- In the future, additional space in this building, if available, should be used for a possible Manchester Early College High School. This will be a partnership with a college or university for students who want to earn an associate degree along with their high school diploma. Students will attend their home school on “A” or “B” day, and then take their college courses at the Classical building by professors on the opposite days as a cohort.

Return the Burns Building and James Building to the City with the recommendation to Raze the James Building and use the space for additional parking.

The city should consider repurposing the Burns Building into apartments in a public-private partnership to house MSD teachers at a lower cost, and to help attract more teachers to work in Manchester.

Recommendation #5

The West High site will no longer be used for school district purposes. However, it should be considered for use to enhance the westside community with the following possibilities:

- Non-profit partners for youth
- Health Services
- Farmers Market
- Community services
- Housing

PART 3: MIDDLE SCHOOLS

Those who have worked with young adolescents in the middle school setting understand why these are often called the *Whitewater* years. The term “whitewater” has a broad meaning, but generally means any river or creek that has a significant number of rapids. Young adolescence can and does have periods of rapids during the time between childhood and adolescence.

The National Forum to Accelerate Middle Grades Reform is a nationally recognized and respected non-profit organization committed to the improvement of America’s middle schools. The National Forum seeks to make *every* middle-grades school:

- Academically Excellent
- Responsive to the Developmental Needs of Young Adolescents
- Socially Equitable

Nearly 30 years ago, the National Middle School Association (now known as the Association for Middle Level Education) published the groundbreaking report, *We Believe* and later published, *This We Believe*. *We Believe* was the first such report (and later *Breaking Ranks* from the National Association of Secondary School Principals) that focused exclusively on the educational needs of the middle-level grades, and one of its major recommendations was that middle schools should have multi-disciplinary teams where a common group of students share the same teachers.

In 2018 the Manchester Board of School Committee looked at multiple proposals concerning the overcrowding at Northwest Elementary, and the design of middle schools. The Board ultimately decided to re-district and begin the process of moving 5th grade to current 6th-8th grade middle schools. The first feeder system chosen for the change were the elementary schools feeding the Middle School at Parkside. Parkside’s first group of 5th grade students began in September of 2019. After the Board of Mayor and Aldermen voted against construction costs for Southside Middle to accommodate the 5th grade, the Board of School Committee voted to use surplus funds (pre-COVID-19) for the construction. Southside’s first group of 5th grade students will begin in September 2021.

The Board committed additional resources to the middle schools for additional 5th grade students so that students had more academic offerings and additional elective offerings with the plan that it would better prepare students for high school at higher levels. The new approach has been positive, but it has not been without controversy, and Board of Mayor and Aldermen on two occasions have voted against funding the construction costs needed for remodeling at McLaughlin Middle and Hillside Middle for the addition of 5th grade students.

Recommendation #1

All middle schools to be Magnet Schools (see Appendix D).

Recommendation #2

Parkside and Southside to continue as 5-8 middle schools.

Recommendation #3

Hillside Middle School should be remodeled and prepared for the 5-8 grade configuration.

- 5th grade students should start attending Hillside by September 2022.

Recommendation #6

Henry J. McLaughlin Middle School to be remodeled and prepared for the 5-8 grade configuration.

- 5th grade students should start attending McLaughlin by September 2022.

PART 4: ELEMENTARY SCHOOLS

It is in the Elementary school setting where the most significant learning takes place in a child's life. The foundations for literacy and a love for learning occur during the K-5 years. Even with Magnet school designations, the primary focus at the Elementary level will be on reading literacy—especially in grades K-3. In fact, at the minimum, teachers should be spending at least three instructional hours per day in grades K-3 devoted to reading, and should include the following elements:

- Whole class instruction.
- Whole class guided practice.
- Small group collaboration and practice.
- Independent work and practice.
- One-on-one supports for students who need additional interventions.

In addition, a larger Elementary (more students in one school) does not mean larger class sizes or impersonal learning. It is how the school learning systems are *designed* that ultimately have the most impact. In the end, teacher quality has far more effect on student learning than smaller class sizes. Students can gain as much as a year's worth of additional learning in a classroom with a highly effective teacher than with a highly ineffective one (Hanushek, 2011).

With the 5th grade at Parkside and soon-to-be Southside middle schools, multiple effective strategies have been developed and learned in relation to teaching this group of students. The methods utilized should be replicated to the extent practicable in the elementary settings including teachers specializing in content areas, and having students rotate between teachers for instruction.

Magnet schools are also effective at the elementary level, and there are many options to choose from (see Appendix D). More Magnet school designs at the elementary level will attract more families to attend our schools and give parents *within the district* choices in programming.

Recommendation #1

Gossler Park Elementary should be re-built into a 21st century state-of-the-art school building and be a larger two-story facility. This will make it possible for a group of students who are bused at Northwest to attend Gossler Park and alleviate overcrowding at Northwest.

- Consideration should be made to designate Gossler as a Community School.

Recommendation #2

Henry Wilson Elementary should be re-built into a 21st century state-of-the-art school building with more space to accommodate the number of students attending the school.

- This is the district's only 100% walking school.
- There is no open land next to the current building.
- This will probably require land acquisition, demolition, and improvements for a chosen site.
- Wilson has no off-street parking and no grass area for children to play on. New school needs staff and visitor parking, and green space for children to play on.
- ***Note: If land is not available, West High can be a temporary location for Wilson School (after new high school is completed), and students bused to the temporary school while the current Wilson is demolished and rebuilt.

Recommendation #3

Remodel Jewett Elementary.

- Of the "triplet" buildings with the same design and built at the same time (Gossler Park, Smyth Road, and Jewett), Jewett is in the best condition.
- Remodel will need to take place over a multi-year period so that the school can still be used.

Recommendation #4

Webster Elementary should have an extensive remodel, and be the district's first dual-language immersion school. French will be the immersion language.

- There is room at Webster for students from other parts of the city, or from out the city to attend the dual immersion school.

Recommendation #5

Do an extensive remodel of Smyth Road Elementary.

- Remodel will take place over a multi-year period so that the school can be used during construction.
- With declining enrollments in the current boundary of Smyth Road, space at Smyth should be utilized for specialized programs, or students from overcrowded schools may possible be bused to Smyth.

Recommendation #6

Consolidate Weston Elementary and McDonough Elementary into a new school with a new name on the McDonough property.

- Close Weston Elementary.
- Consider two building options

- Extensive remodel and add an addition on to current McDonough building.
- Build new state-of-the-art facility, and after move-in is complete, raze current McDonough building.

Recommendation #7

Parker-Varney School to be remodeled and updated when appropriate.

Recommendation #8

To alleviate overcrowded conditions at Bakersville, realign school boundaries.

- If it is not possible to reduce overcrowding at Bakersville, a new addition to the building should be built.
- Bakersville to be the first to school to have all air-handlers replaced.

Recommendation #9

Green Acres Elementary to be remodeled *immediately*. Green Acres will serve as the “model” of what can be done with the remodel of an older school

- Urgency is based on safety factors (fire sprinklers, no fire safety walls in parts of the building, problematic HVAC system).

Recommendation #10

Beech Street Elementary to be a Spanish dual-language immersion school (the district’s 2nd dual immersion school).

Recommendation #11

In the future, when it is needed, the following schools to be remodeled:

- Beech Street
- Highland Goffes Falls
- Northwest

PART 5: RECOMMENDED TIMELINE

Pre-Phase Work (Now - 2021)

- Community input forums are held to gather ideas and input concerning the recommendations.
- One or more Community Input Sessions in each high school feeder system, as well as MST should be held.
- Input from Community Input Sessions are put into major themes such as suggestions, concerns, most frequent questions, etc.
- The summarization of the sessions will be given to the Board of School Committee.
- Board of School Committee votes to accept, alter, or reject recommendations.
- If the Board of School Committee accepts the recommendations, or accepts the recommendations with alterations, the accepted plan will have a “cost out” (given budgetary numbers) and presented to the Board of Mayor and Aldermen.
- If the Board of Mayor and Alderman support funding the facility recommendations, the following phases are proposed.

Phase 1 (Now – 2021-2023):

- Purchase property for new high school.
- RFP for architectural firm completed, and architectural firm hired.
- Community sessions for new high school design are held.
- New High School designed and approved by Board of School Committee.
- Community sessions for Gossler Park re-build are held.
- New Gossler Park Elementary designed and approved by Board of School Committee.
- Community sessions for Wilson rebuild are held.
- New Henry Wilson Elementary (when location is determined) designed and approved by Board of School Committee.
- RFP for Contractor completed, and construction firm hired.
- Construction of new Manchester High begins.
- Construction begins on new Gossler Park Elementary.
- Construction begins on new Wilson Elementary.
- Architectural drawings completed and approved for the following:
 - Centralized pre-school (current MST)
 - New Manchester Career and Technology High School (current Memorial building)
 - Manchester School of the Arts High School (current Central Practical Arts building)
 - District Office (current Central Classical Building)
 - Bridge Academy (current Central Classical Building)

- Manchester Online School (current Central Classical Building)
- Boundary Steering Committee for Bakersville formed. After multiple meetings, analyzing bus routes, and where students live, make recommendation to the Board of School Committee.
- Community input session for recommended Bakersville boundary changes, and/or building addition.
- Board of School Committee adopts new boundary for Bakersville, and boundary changes to other affected district schools, or approves building an addition to Bakersville.

Phase 2 (Next – 2022-2028):

- Two years prior to completion of new Manchester High School, Remodel work begins on current Memorial building for change to MCTHS. Memorial students continue to attend school during remodel construction.
- Boundaries between Gossler and Northwest are re-drawn by moving a group of students already bused to Northwest to Gossler to alleviate overcrowding.
- Board of School Committee approves new Gossler boundary
- Fifth grade students start attending Hillside and McLaughlin.
- 18 months prior to the completion of the new Manchester High, the principal is hired/assigned.
- One year prior to the completion of the new Manchester High, the new principal will work full-time in preparing for the opening of the school (hiring and appointing staff, community forums to finalize colors and mascot, preparing community open house events, preparing course catalogue, student registration, etc.).
- When new Manchester High is completed and students and faculty move in, remodel and repurposing at Central High begins. District vacates Burns Building and James Building and returns them to the city. Underground parking easement is kept by the district.
- Architectural plans are approved by Board of School Committee for extensive remodels at Jewett and Smyth Road.
- Community input sessions held with Weston community and McDonough community.
- Architectural plans for either remodeled McDonough with addition, or new building on McDonough property (consolidated Weston & McDonough) are approved by Board of School Committee.
- Architectural plans for Webster remodel, Parker Varney remodel and Beech remodel are approved by Board of School Committee.
- All furnishings in all middle schools are replaced and updated to align with developmental learning needs of young adolescents.

Phase 3 (Later – 2025-2030):

- When Manchester School of the Arts is completed, the school is opened by August of the new school year.
- When District Office is completed at Classical building, district moves from space at West High, vacates West High building and returns it back to the city.
- If a new school at McDonough site is needed, construction begins. When new school is completed, old McDonough building is razed, and students begin attending new school. Weston is vacated and returned to the city.
- Webster School is remodeled.
- Parker Varney School is remodeled
- Beech Street School is remodeled/updated

Later Phases (2031+):

- Northwest remodel/update
- Highland Goffe's Falls remodel/update
- Revisit condition of middle schools, and determine if there is a need for extensive remodels or rebuilds.

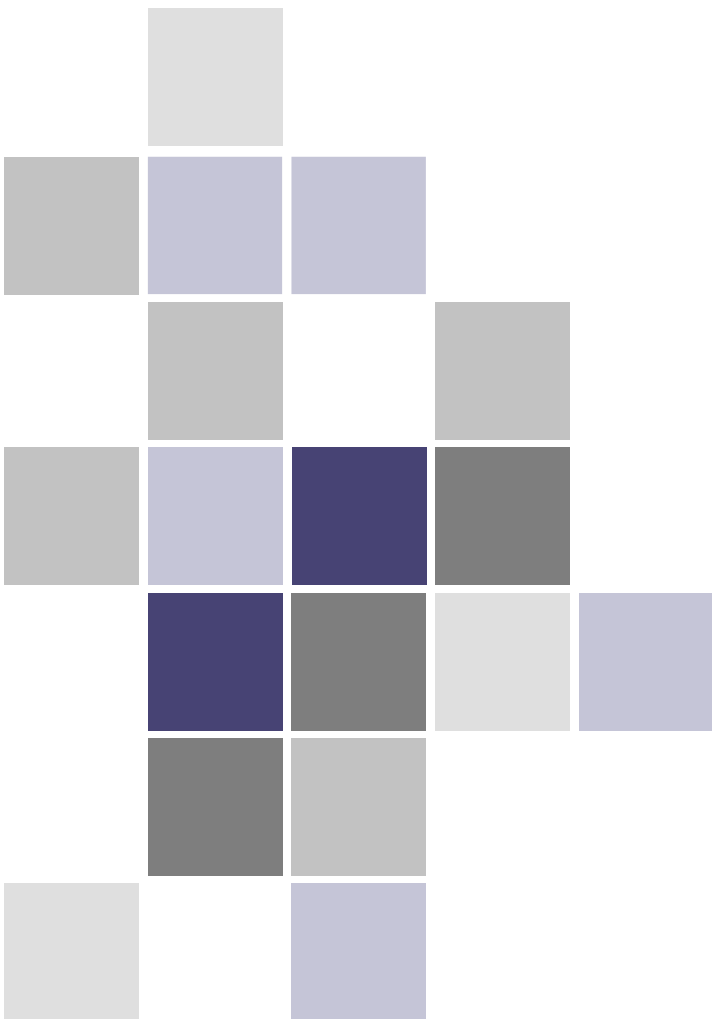
Appendix A

MGT FINAL REPORT

CAPACITY/UTILIZATION REVIEW MANCHESTER SCHOOL DISTRICT

Amended Final Report

APRIL 2021



www.mgtconsulting.com

Table of Contents

1.0 EXECUTIVE SUMMARY	1
1.1 BACKGROUND.....	2
1.2 ENROLLMENT AND CAPACITY	3
1.3 COMMUNITY ENGAGEMENT	9
1.4 FACILITY ASSESSMENTS.....	10
1.5 FINDINGS AND RECOMMENDATIONS.....	12
2.0 BACKGROUND.....	18
2.1 DISTRICT INFORMATION	18
2.2 PROJECT BACKGROUND	19
3.0 DEMOGRAPHICS, ENROLLMENT, SCHOOL CAPACITY, AND BUILDING EFFICIENCY.....	20
3.1 INTRODUCTION	20
3.2 DEMOGRAPHICS	21
3.3 ENROLLMENT	23
3.4 SCHOOL CAPACITY.....	26
3.5 BUILDING EFFICIENCY	28
4.0 COMMUNITY ENGAGEMENT.....	31
4.1 PARTICIPATION	31
4.2 ONLINE SURVEY- DATA	31
5.0 FACILITY ASSESSMENTS	40
5.1 BUILDING/SITE CONDITION ASSESSMENT.....	41
5.2 EDUCATIONAL SUITABILITY ASSESSMENT.....	42
5.3 TECHNOLOGY READINESS	44
5.4 COMBINED SCORES.....	45
5.5 FINDINGS	46
6.0 MASTER PLAN RECOMMENDATIONS.....	47
6.1 FINDINGS.....	47
6.2 RECOMMENDATIONS FOR LONG-RANGE FACILITY MASTER PLANNING	50
APPENDIX A – BUILDING INVENTORY	53
CENTRAL HIGH SCHOOL.....	53
MEMORIAL HIGH SCHOOL.....	54
MST HIGH SCHOOL.....	55
WEST HIGH SCHOOL.....	56
HILLSIDE MIDDLE SCHOOL	57
MCLAUGHLIN MIDDLE SCHOOL	58
PARKSIDE MIDDLE SCHOOL	59
SOUTHSIDE MIDDLE SCHOOL	60

BAKERSVILLE ELEMENTARY SCHOOL	61
BEECH STREET ELEMENTARY SCHOOL	62
GOSSLER PARK ELEMENTARY SCHOOL	63
GREEN ACRES ELEMENTARY SCHOOL	64
HALLSVILLE ELEMENTARY SCHOOL	65
HIGHLAND-GOFFE’S FALLS ELEMENTARY SCHOOL	66
JEWETT ELEMENTARY SCHOOL	67
MCDONOUGH ELEMENTARY SCHOOL	68
NORTHWEST ELEMENTARY SCHOOL	69
PARKER-VARNEY ELEMENTARY SCHOOL	70
SMYTH ROAD ELEMENTARY SCHOOL	71
WEBSTER ELEMENTARY SCHOOL	72
WESTON ELEMENTARY SCHOOL	73
HENRY WILSON ELEMENTARY SCHOOL	74
APPENDIX B – EDUCATIONAL SUITABILITY & TECHNOLOGY READINESS GUIDE	75

I.0 EXECUTIVE SUMMARY

In August of 2020, Manchester School District (“MSD” or “the district”) contracted with MGT of America Consulting, LLC (“MGT”) to conduct a facility audit to assess the utilization of space and develop a master plan to support the educational needs of MSD learners in coordination with the district’s goals, vision, and promise. Using input from the community, the goal of a master plan is to create a blueprint or road map, based on best practice facility standards, that identifies and prioritizes facility needs, and presents strategies for effective and efficient facility improvement and usage over the planning period. For this project, the MGT team gathered facility and community data. This report provides findings and recommendations based on that information.

The project included the following tasks:

- ♦ Project initiation
- ♦ Policy, goals, and objectives formulation
- ♦ Comprehensive building inventory
- ♦ Facility assessments
- ♦ Community engagement
- ♦ Enrollment, capacity, and utilization projections
- ♦ Scenarios and prioritization
- ♦ Final facilities master plan
- ♦ Project management

This report consists of six sections. Sections 1 through 5 include a description of the methodology and the data gathered in that section. The final section includes the findings and recommendations. The report also includes appendices that contain an inventory of MSD schools as well as the *Educational Suitability Reference Guide* used for facility assessments.

The report sections are as follows:

- Section 1.0 – Executive Summary
- Section 2.0 – Background
- Section 3.0 – Demographics, Enrollment, Capacity and Efficiency
- Section 4.0 – Community Engagement
- Section 5.0 – Facility Assessments
- Section 6.0 – Findings and Recommendations
- Appendices

I.I BACKGROUND

Manchester School District is an urban school district encompassing downtown Manchester and the neighborhoods surrounding the city core. It is the largest and oldest district in the largest city in the state.

With a population of approximately 107,000, the city of Manchester is the largest city in Northern New England.

MSD serves more than 12,000 students, including approximately 2,000 students that are English Language Learners. The district consists of a developmental preschool program, 14 elementary schools, four middle schools, four high schools, including a Career and Technical Education Center, and a program for adult education.

MSD is governed by the Board of School Committee which is comprised of 15 members and chaired by the Mayor of the City of Manchester. The Board of School Committee adopted mission and promise statements to ensure a system-wide understanding of the district's goals. These statements guide the district and provide insight into the Board of School Committee's plans. The mission and promise statements are shown below:

MSD Mission

- Excellence and Equity: Every Classroom. Every Day.

MSD Promise

- Every Student in Manchester is known by name, served by strength and need, and graduates ready to lead in college, career, and community.

I.2 ENROLLMENT AND CAPACITY

The functional capacity of a school is defined as the number of students a building can support based on the program of studies offered and educational standards. For this review, MSD requested the functional capacity be set according to the class size approved by the Board of School Committee in the spring of 2018:

- ♦ Kindergarten 20 Students
- ♦ Grades 1 - 2 20 to 22 Students
- ♦ Grades 3 - 5 22 to 25 Students
- ♦ Grades 6 - 8 25 to 27 Students
- ♦ Grades 9- 12 (non-lab) 30 Students
- ♦ Grades 9 - 12 (lab) 24 Students

The functional capacity is based on the number of classrooms including art and music rooms at the elementary schools, and space for students with special needs at all levels. The functional capacity was then multiplied by a utilization factor to calculate the programmatic capacity for each school.

Grade Level	Utilization Factor
Elementary	.95
Middle	.9
High	.85

In addition to the capacity number, MGT has created an “efficiency” score for each school. Using building capacity data and the 2019-20 enrollment, MGT defined the efficiency of each building, calculated by dividing enrollment by each building’s programmatic capacity. The key, below, shows the building efficiency rates calculated using programmatic capacities and the current enrollment at each school. The building efficiency rates are color-coded to identify best practices for building use. Nationally recognized “best practices” indicate capacity rates that are either too high or too low are problematic: too high means there is **inadequate** space for the enrollment and program; too low means there is **inefficient** use of space for the enrollment and program.

EFFICIENCY RATE	DESCRIPTION
> 110	Inadequate Space
95 - 110	Approaching Inadequate Space
80 - 95	Adequate Space
70 - 80	Approaching Inefficient Use of Space
< 70	Inefficient Use of Space

In MSD, some schools have inefficient space, while other schools have inadequate space based on the analysis described above. There are three schools based upon the programmatic capacity that have enrollment efficiency ratings of less than 70%. These schools are significantly under-utilized. They may have empty spaces or may have expanded people/programs to occupy the spaces. They may or may not have created spaces for all required programs – e.g., art and music – because they may not have staff to lead these programs.

There are also two schools based upon the programmatic capacity that have enrollment efficiency ratings of more than 110%. These schools are significantly over-utilized. They have no empty spaces and likely have expanded people/programs into every possible location in the building. The buildings with over-capacity likely lack core space – restrooms, media center, cafeteria, hall spaces - to accommodate the enrollment. They may have to operate with multiple lunch periods and may be moving students at different times to reduce over-crowding in corridors.

School	Programmatic Capacity	2019/20 Enrollment	Efficiency Rate	Students Under/Over Capacity	2030 Projected Enrollment	2030 Projected Efficiency Rate
Central High	2,013	1,306	64.9%	-707	806	40%
Memorial High	1,522	1,405	92.3%	-117	930	61.1%
MST High	390	388	99.5%	-2	671	172%
West High	1,452	783	53.9%	-769	520	35.8%
High School Total	5,377	3,882	72.2%	-1,595	2,927	54.4%
Hillside Middle	945	857	90.7%	-88	633	67%
McLaughlin Middle	907	730	80.5%	-177	709	78.2%
Parkside Middle	896	841	93.9%	-55	779	86.9%
Southside Middle	1,001	691	69%	-310	535	53.4%
Middle School Total	3,749	3,119	83.2%	-630	2,656	70.8%
Bakersville Elementary	286	410	143.4%	124	466	162.9%
Beech Street Elementary	555	566	102%	11	548	98.7%
Gossler Park Elementary	474	364	76.8%	-110	381	80.4
Green Acres Elementary	502	489	97.4%	-13	504	100.4%
Hallsville Elementary	305	261	85.6%	-44	264	86.6%
Highland-Goffe's Falls Elementary	474	424	89.5%	-50	429	90.5%
Jewett Elementary	418	395	94.5%	-23	376	90%
McDonough Elementary	568	481	84.7%	-87	456	80.3%
Northwest Elementary	578	553	95.7%	-25	551	95.3%
Parker-Varney Elementary	532	468	88%	-64	406	76.3%
Smyth Road Elementary	430	427	99.3%	-3	448	104.2%
Webster Elementary	479	425	88.7%	-54	371	77.5%
Weston Elementary	513	514	100.2%	1	495	96.5%
Henry Wilson Elementary	395	440	111.4%	45	491	124.3%
Elementary School Total	6,509	6,217	95.5%	-292	6,186	95%

Like many urban districts with declining enrollment, MSD has overall excess capacity. To better utilize space, MSD has executed a variety of moves and efforts over the last several years. MSD made the decision to move the 5th grade from elementary schools to middle schools and has started to implement this program. Along with moving 5th grade to middle schools, MSD moved their central offices to the third floor of West High School. The move of central offices to West High School has brought challenges associated with co-locating with a school as well as ADA compliance complaints due to the only access to an elevator is through the high school portion of the building.

ENROLLMENT PROJECTIONS

An enrollment projection is an estimate of future activity based on the historical data and information provided. To prepare projections for each school, MGT looked at such factors as historical live birth data, kindergarten capture rate, live birth to kindergarten correlation coefficient, permit data, and student-age population rates as input. These factors helped to generate projections that are tailored to MSD. To identify trends and prepare for adequate spaces, teaching staff, materials, and supplies, educational leaders can use several methods of projecting enrollment.

MGT utilized four base models: Average Percentage Increase, Cohort Survival, Linear Regression, and Student-Age of Population. MGT generates a weighted average of these four “base” models to arrive at its enrollment projection. A weighted average allows the analysis to reflect all the trends observed in the historical data and the over-arching themes from the qualitative information gathered in this process. The weighted average also works to maximize the strengths of each of the base models.

AVERAGE PERCENTAGE INCREASE MODEL

This model calculates future school enrollment growth based on the historical average growth from year to year for each grade level. This simple model multiplies the historical average percentage increase (or decrease) by the prior year’s enrollment to project future enrollment estimates. For example, if enrollment in the first grade decreased 5 percent from 2000 to 2001 and decreased 7 percent from 2001 to 2002, then the average percentage change would be a 6 percent decrease, and 6 percent would be the factor used to project future enrollment in this base model.

LINEAR REGRESSION MODEL

This model uses a statistical approach to estimate an unknown future value of a variable by performing calculations on known historical values. Once calculated, several future values for different future dates can then be plotted to provide a trend line or “regression line.” MGT has chosen a “straight-line” model to estimate future enrollment values, a model that finds the best fit based on the historical data.

COHORT SURVIVAL MODEL

This model calculates the growth or decline in a grade level over a period of five years based on the ratio of students who attend each of the previous years, or the “survival rate.” This ratio is then applied to the incoming class to calculate the trends in that class as it “moves” or graduates through the school system. For example, if history shows that between the first and second grades, the classes for the last ten years have grown by an average of 3.5 percent, then the size of incoming classes for the next ten years is calculated by multiplying them by 103.5 percent. If the history shows a declining trend, the multiplying factor would be 100 percent minus the declining trend number. The determination of future kindergarten enrollment estimates is critical, especially for projections exceeding five years. There are two methods of

projecting kindergarten. The first model is based on the correlation between historical birth rates (natality rates) obtained from zip code birth data and household counts from Census, and historical kindergarten enrollment. The second model uses a linear regression line based on the historical kindergarten enrollment data.

STUDENT-AGE OF POPULATION MODEL

This last model utilizes age related population data as its base data. Using the student-age population data and historical enrollment data, MGT created a student generation factor (SGF) for each school level (Elementary, Middle, and High) based upon population of the age groups of those school levels. This factor indicates the number of students within each school level that can be expected based upon population projections. By using population projections and historical enrollment data, MGT projected future enrollment.

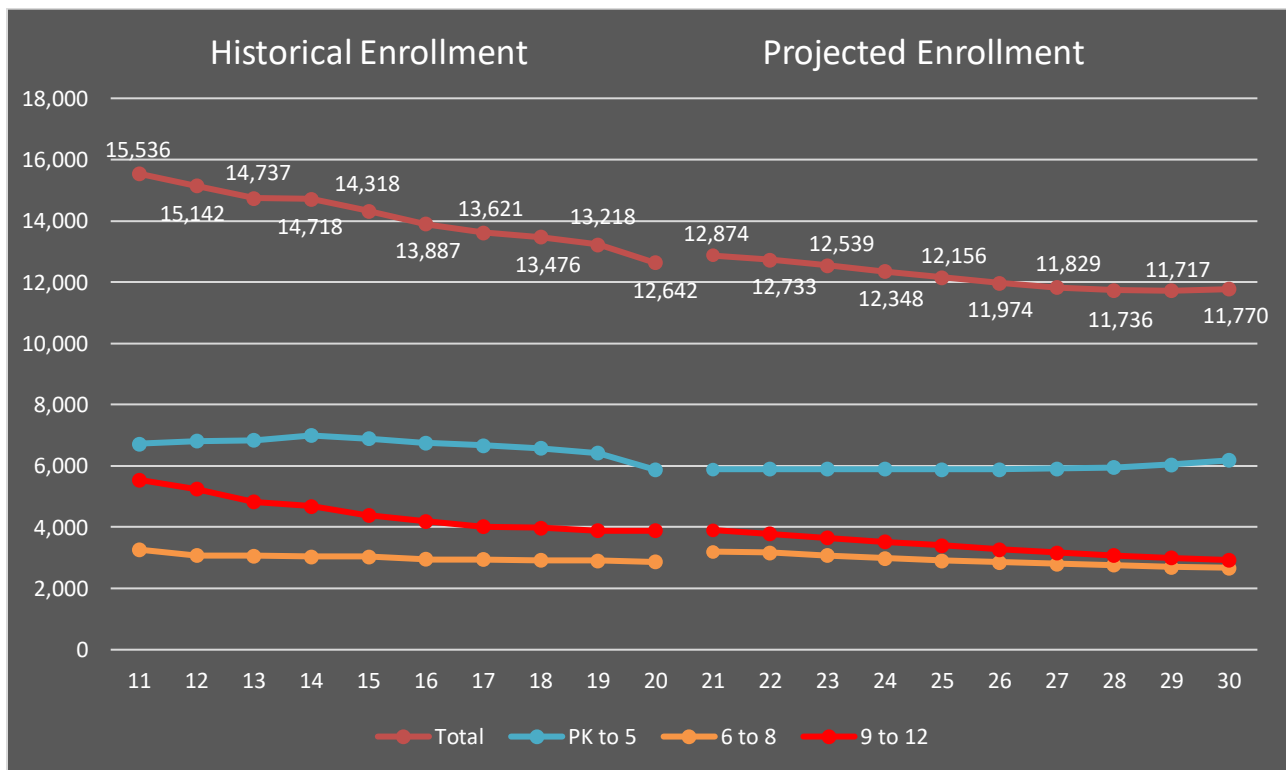
WEIGHTED AVERAGE

Once each of these four base models has been calculated, MGT generated a weighted average of each of the models. A weighted average allows the analysis to reflect all the trends observed in the historical data and the over-arching themes from the qualitative information gathered in this process.

The weighted average also works to maximize the strengths of each of the base models. Two models, the Average Percentage Increase Model, and the Linear Regression Model, emphasize historical data. These models are quite effective predictors if there is no expectation of unusual community growth or decline and student population rates have minimal fluctuation.

The Cohort Survival Model also uses historical enrollment numbers but considers student-mobility patterns and the effects of the natality rates in prior years. The Cohort Survival Model is perhaps the best-known predictive tool using this type of data. However, like the Annual Percentage Annual Increase Model and the Linear Regression Model, the Cohort Survival Model loses its predictive capabilities in communities that experience, or are expecting to experience, more rapid growth or rapid decline.

The Student-Age of Population Model allows the planner to consider projections for population growth within the school district and surrounding area. This model looks forward and is based on local population data as well as housing planning information.



Given this information and data, MSD can reasonably expect enrollment to continue to decline before leveling off by 2030. The number of excess seats will continue to increase in middle schools and high schools and slightly decrease in elementary schools.

The enrollment shown for 2030-31 is a projection, based on MGT’s methodologies. The capacity is left unchanged from 2020-21; hence, an increase in the total number and percent of excess seats district wide over the next 10-year period.

YEAR	GRADE LEVEL	ENROLLMENT/ PROJECTION	CAPACITY	EXCESS SEATS
2019/2020	Elementary	6,217	6,509	292
	Middle	3,119	3,749	630
	High	3,882	5,377	1,595
2030/2031	Elementary	6,186	6,509	323
	Middle	2,656	3,749	1,093
	High	2,927	5,377	2,450

The enrollment/capacity gap varies among the district’s school grade levels. As shown in the table above, the elementary school and high school levels have the largest difference between enrollment and capacity. The middle school level currently operates with the smallest difference between enrollment and capacity.

It is important to note the district’s average efficiency rating across all grade levels is approximately 84.5%,

which is within the adequate range of 80% - 95%. However, that percentage is an average, which obscures the real story. As described earlier, there are schools that are significantly over-enrolled/utilized as well as schools that are significantly under-enrolled/utilized.

As shown in the table above, there are currently a combined total of 2,517 “empty seats” across all grade levels. When capacity and enrollment are not balanced, the district is spending resources on those empty spaces for non-instructional salaries and operations.

MGT created a cost estimate for empty seats with data from a national source. Using the American School and University magazine’s annual review of Maintenance and Operations (M&O) costs¹, and a conservative conversion estimate of seats into students of 65% (since scheduling varies between elementary, middle, and high schools and thus seat conversion is not a one-to-one correlation). MGT conservatively estimates that MSD is spending \$1,347,843.43 on empty seats in FY 2020-21 (2,517 empty seats x 65% x \$823.84/student). Over the next ten-years, the district could spend more than \$13,000,000 in M&O costs for empty seats if efforts are not taken to reduce the excess capacity.

¹ Maintenance and operations cost calculations were determined using the American University Study 2006-2007. <http://www.asumag.com/maintenance/36th-annual-maintenance-operations-cost-study-schools>.

I.3 COMMUNITY ENGAGEMENT

Engaging the community is an important part of developing recommendations for long-range facility master planning. In MSD, the engagement plan for the Interim Report consisted of a community survey with a goal of hearing input from the community about capacity and utilization issues.

On October 23, 2020, MGT engaged MSD stakeholders via an online Qualtrics survey that generated a significant number of responses. The survey was available to for two weeks and stakeholders were reminded to take the survey several times during the two-week period. The survey was offered in the following languages to ensure availability to as many stakeholders as possible:

- English
- Bosnian
- French
- Vietnamese
- Hindi
- Croatian
- Portuguese
- Romanian
- Russian
- Albanian
- Swahili
- Ukrainian
- Arabic
- Spanish
- Urdu
- Chinese

The survey had a total of 4,302 respondents. Respondents were not required to complete every survey question, which means that the total number of responses for each question can vary.

The race/ethnicity of 4,055 respondents was 88.34% White, 10.96% Hispanic/Latino of any race(s), 4.81% Other Races, 3.6% Black/African American, 2.44% Asian, 0.69% American Indiana/Alaskan Native, and 0.12% Native Hawaiian/Other Pacific Islander.

FINDINGS FROM INITIAL SURVEY

- ♦ Respondents represented every school, with Memorial High School having the most (545) and Bakersville Elementary School having the least (67)
- ♦ Respondents represented every grade level, with 11th grade having the most (406) and Pre-kindergarten having the least (71)
- ♦ Adjusting school attendance boundaries was listed as the preferred way to address schools that are over and under capacity
- ♦ Optimizing available school capacity to efficiently accommodate the future enrollment and anticipated shifts of population is the most important facility planning objective to respondents
- ♦ Gaining efficiencies by reducing the number of schools in MSD is the least important facility planning objective to respondents

I.4 FACILITY ASSESSMENTS

MSD schools were scored in three areas:

- ♦ Building/Site condition – physical condition of all building systems
- ♦ Educational suitability – ability of the facility to support and enhance educational program delivery
- ♦ Technology readiness – level to which the building infrastructure supports information technology

The building/site condition scores were determined by utilizing the deferred maintenance and renovation expense as outlined in the Manchester School District Facility Condition Assessment (March 2020). The educational suitability and technology readiness assessments were conducted by a trained educator who walked each site with the principal/designee. The three scores were weighted to create a Combined Score that makes it easier to develop priorities across all the assessments.

The weighting formula for the combined scores is shown below:

- ♦ Building/Site condition – 50%
- ♦ Educational suitability – 30%
- ♦ Technology readiness – 20%

Scores have been organized using a cut point criteria and color-coding, as shown below:

SCORES	DESCRIPTION
> 90	Excellent/Like New
80 - 89	Good
70 - 79	Fair
60 - 69	Poor
< 60	Unsatisfactory

MSD has many old schools, the average age is approximately 70 years, thus many buildings may have difficulty meeting the district's goal of offering schools that provide 21st Century learning opportunities and support the needs of diverse learners. Despite the age of district schools, the average building condition score of 76 is in the top half of the "Fair" category and indicates that many buildings have been well maintained. The highest average score is for technology readiness, which reflects how well the district's infrastructure supports the standards in place. The high technology readiness scores are likely due to the significant emphasis the district has placed on technology for both student and teacher support.

RANGE/AVERAGE	BUILDING/SITE CONDITION SCORE	EDUCATIONAL SUITABILITY SCORE	TECHNOLOGY READINESS SCORE	COMBINED SCORE
Range	58-93	50-82	71-100	58-88
Average	76	72	91	76

The lowest average score is for educational suitability, which reflects the degree to which the facility supports the educational program it houses. The educational suitability average score of 72 (“Fair”) shows that many schools have spaces that do not meet the district’s facility standards, or that the schools have inadequate spaces like science labs, music, or art rooms. It is interesting to note that the seven lowest educational suitability scoring schools were elementary schools.

School	Suitability Score	Tech Readiness Score	Building Condition Score	Combined Condition Score
West High	73	76	75	74
Northwest	76	71	81	77
Memorial	79	82	78	79
Jewett	70	84	81	79
Webster	66	93	76	76
Smyth Road	71	76	62	68
Hillside	81	90	82	83
McDonough	80	76	74	76
Bakersville	61	76	81	74
Beech Street	80	83	75	78
Highland-Goffe's Falls	82	83	93	88
Central	73	90	72	76
Wilson	65	74	74	71
MST	79	98	79	83
Southside	78	79	74	76
Green Acres	69	93	70	74
McLaughlin	80	100	78	83
Weston	65	95	86	81
Hallsville	50	67	58	58
Gossler Park	65	66	63	64
Parkside	73	100	78	81
Parker-Varney	70	88	75	76

I.5 FINDINGS AND RECOMMENDATIONS

This section presents the process utilized to determine priorities and prepare recommendations for master planning for the Board's review. This section is divided into the following components

- ♦ **Findings** – a description of issues that MGT identified through the study process that have facility implications for short- and long-range planning.
- ♦ **Recommendations** – a set of issues that the Board may want to consider for school facility planning, including possible program placement changes, facility improvements, and opportunities for repurposing.

FINDINGS

Any long-range study includes gathering information and documenting issues, conditions, ideas, and data. In MSD, as described in earlier sections, this information has come from interviews, community surveys, document reviews, and on-site assessments of each of the district's facilities.

1. MSD HAS MORE CAPACITY THAN NEEDED TO SUPPORT CURRENT AND PROJECTED STUDENT ENROLLMENT

Using the MSD board approved classroom sizes for calculating school capacity, there are some “empty seats” across the school district. Currently, there are nearly 3,000 empty seats and, without changes, the number is projected to grow to more than 3,800 over the next 10 years. Having “empty seats” carries several costs, including lost revenue and increased per student energy and operational costs. Without changes in the district's facility inventory, these costs are projected to increase over time.

MGT created a cost estimate for empty seats with data from a national source. Using the American School and University magazine's annual review of Maintenance and Operations (M&O) costs, and a conservative conversion estimate of seats into students of 65% (since scheduling varies between elementary, middle, and high schools and thus seat conversion is not a one-to-one correlation). MGT conservatively estimates that MSD is spending \$1,347,843.43 on empty seats in FY 2020-21 (2,517 empty seats x 65% x \$823.84/student). Over the next ten-years, the district could spend more than \$13,000,000 in M&O costs for empty seats if efforts are not taken to reduce the excess capacity.

2. MSD SCHOOLS ARE NOT EQUALLY ABLE TO PROVIDE 21ST CENTURY LEARNING ENVIRONMENTS THAT SUPPORT STUDENT PROJECTS, ENGAGEMENT, AND COLLABORATION

The average age of schools in MSD is 70 years. As buildings go, this is old. Most building systems – plumbing, lighting, heating, etc., – have “life-cycles.” Few building life cycles extend beyond 50 years.

In addition to facility condition issues, MGT gathered information about the suitability of each space to support instruction. Buildings planned and built before 1980 did not include space for Title I, English Language Support, Special Education, or technology. Those schools typically had classrooms, but no flexible learning spaces to support differentiated learning with small groups or various learning styles.

Data gathered from assessments of MSD schools provide evidence of the impact of the age of the schools on the learning environment. Data gathered included Building/Site Condition, Educational Suitability, and

Technology Readiness. The data assessments show the following:

- ♦ The average **technology readiness** score is “Excellent,” documenting the emphasis placed on student and faculty technology access over the last several years.
- ♦ The average **educational suitability** score is “Fair,” indicating deficiencies in meeting educational program needs in many schools.
- ♦ The average **building/site condition** score is “Fair” and there is a wide variation of scores with some schools having significant facility deficits.

3. THE DISTRICT’S ESTIMATED COST TO IMPROVE ALL FACILITIES TO A COMBINED SCORE OF 85 IN ALL FOUR ASSESSMENT CATEGORIES IS \$ \$92,792,206.69

Using construction cost data from School Planning & Management Magazine Annual School Construction Report, MGT estimated the cost to renovate each school.

REGION 1 MEDIANS NEW SCHOOLS (CT, ME, MA, NH, RI, VT)				
	Elementary	Middle	High	The median elementary school in Region 1 spent \$400.36 per square foot or \$86,619 for each of 629 students accommodated. Construction costs in Region 1 are higher than anywhere else (\$/square foot) but reporting throughout the region is consistent.
\$/sq. ft.	\$400.36	\$371.59	\$387.75	
\$/student	\$86,619	\$67,628	\$80,474	
Sq. ft./student	214.2	182.6	193	
Students	629	1001	1118	
Size (sq. ft.)	103,650	182,059	222,826	
Total cost (\$000)	\$36,900	\$67,800	\$89,970	



*Source – School Planning & Management Magazine Annual School Construction Report

School	Suitability Score	Suitability Renovation Estimate	Condition Score	Condition Renovation Estimate	Technology Score	Technology Renovation Estimate	Total Renovation Estimate
West High	74	\$2,381,153.53	75	\$6,347,178.24	76	\$145,756.63	\$ 8,874,088.40
Northwest	77	\$546,538.24	81	\$875,862.57	71	\$71,924.99	\$ 1,494,325.80
Memorial	79	\$1,151,995.96	78	\$4,489,442.40	82	\$50,365.93	\$ 5,691,804.29
Jewett	79	\$673,081.48	81	\$558,593.00	84	\$2,836.58	\$ 1,234,511.06
Webster	76	\$1,294,758.81	76	\$1,958,668.02	93	\$0	\$ 3,253,426.83
Smyth Road	68	\$737,338.51	62	\$4,057,596.15	76	\$40,637.70	\$ 4,835,572.36
Hillside	83	\$566,955.61	82	\$1,512,748.54	90	\$0	\$ 2,079,704.15
McDonough	76	\$411,985.24	74	\$2,731,080.08	76	\$58,686.06	\$ 3,201,751.37
Bakersville	74	\$1,306,505.90	81	\$658,924.02	76	\$40,929.87	\$ 2,006,359.79
Beech Street	78	\$447,457.17	75	\$2,775,969.41	83	\$12,036.09	\$ 3,235,462.66
Highland-Goffe's Falls	88	\$246,161.75	93	\$0	83	\$10,319.43	\$ 256,481.18
Central	76	\$3,628,428.13	73	\$13,110,510.87	90	\$0	\$ 16,738,939.00
Wilson	71	\$1,199,365.34	74	\$2,268,417.34	74	\$53,133.29	\$ 3,520,915.97
MST	83	\$781,820.33	79	\$2,409,866.25	98	\$0	\$ 3,191,686.58
Southside	76	\$908,949.48	74	\$4,932,687.21	79	\$60,771.28	\$ 5,902,407.97
Green Acres	74	\$1,050,692.20	70	\$3,173,159.28	93	\$0	\$ 4,223,851.47
McLaughlin	83	\$561,844.08	78	\$2,703,874.64	100	\$0	\$ 3,265,718.72
Weston	81	\$1,465,876.08	86	\$0	95	\$0	\$ 1,465,876.08
Hallsville	58	\$1,607,376.21	59	\$4,073,371.90	67	\$68,921.01	\$ 5,749,669.12
Gossler Park	64	\$957,923.37	63	\$3,564,630.16	66	\$75,767.41	\$ 4,598,320.94
Parkside	81	\$1,596,444.28	78	\$2,960,294.03	100	\$0	\$ 4,556,738.31
Parker-Varney	76	\$1,068,140.48	75	\$2,346,454.15	88	\$0	\$ 3,414,594.63

Additional recommendations make clear that addressing the facility needs of each current building may not be the most efficient and effective way to address facility needs in the district, given the number of schools that are under- and over-utilized.

4. MSD'S HIGH SCHOOL COHORT SURVIVAL RATE IS VERY LOW

As shown in the table below, students entering high school choose not to stay in MSD. While analyzing the data, MGT noted there is a large drop in enrollment between the Freshman and Sophomore years and between the Junior and Senior years, although enrollment only decreases slightly between Sophomore and Junior Years. The survival percentage, or the percentage of incoming freshman that stay through their senior year, is consistently around 60% with the exception the 2017-2021 cohort.

When dissecting the 2017-2021 cohort data, it appears the decreases in enrollment follow the same pattern as the previous cohorts except there was not a significant drop between the Junior and Senior years. This may be due to the onset of remote instruction because of the Covid-19 pandemic.

Historical Enrollment											
Grade	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
9th	1698	1746	1658	1361	1279	1248	1287	1123			
10th		1269	1293	1297	1170	1094	1047	1100	923		
11th			1260	1191	1235	1068	1011	973	1060	883	
12th				985	1004	980	846	818	774	816	868
Cohort Survival %				58%	57.5%	59%	62%	64%	62%	63%	77%

5. HIGH DEFERRED MAINTENANCE, LIFECYCLE, & CAPITAL IMPROVEMENT COSTS

According to Manchester School District Facilities Condition Assessment (March 2020), MSD has more than \$158,000,000 of deferred maintenance, lifecycle, and capital improvement costs. Each of these are defined further below:

- Deferred Maintenance (DM) costs are defined as critical maintenance that has been delayed and will result in significant added costs, potential program curtailment or interruption, and/or liability issues. DM usually refers to critical components such as boilers, roofs, alarm panels, water heaters, etc.
- Lifecycle (LC) costs are defined as the investments necessary due to existing equipment or building components having worn out due to age. Replacements that are essential for the normal protection and preservation of the facilities' structural integrity and functional utility.
- Capital Improvement (CI) costs are defined as the investments that are recommended to install additional systems or improvement dedicated to raise the facility, electrical/mechanical systems, and/or architectural systems to currently acceptable standards.

RECOMMENDATIONS

Based on the findings described above, MGT recommends that the Manchester Board of School Committee develop a long-range plan that includes some or all the options described below. Each option addresses issues found in the district during this project.

1. Reduce capacity/number of facilities across the district to allow for reallocation of funds to support instruction.

Schools should be re-purposed/closed based on identified criteria, including facilities that do not meet program standards, are high in operational or energy costs, do not have ADA access, have difficulty meeting student achievement standards, or have other issues.

Major Criteria for Repurposing/closure selection:

- Combined Score for facility assessments
- Distribution of schools aligned to distribution of students
- Deferred maintenance costs
- Utility costs
- Strategic land use planning
- Program considerations
- Access issues and transportation issues

Elementary School

Based on the 2019/20 enrollment, there are 292 excess seats at the elementary school level. MSD has begun the process of moving 5th grade students into middle schools. Completion of this process will result in approximately 768 additional excess seats, for a total of 1,060 excess seats.

As noted in section 3.4, MSD's elementary programmatic capacity is 6,509 students. Therefore, MSD's elementary utilization factor would be 83.7% (5,449/6,509), within the "adequate space" range of 80% to 95% utilized.

Given the projected elementary school enrollment is expected to remain relatively flat, and the high deferred capital improvement expense MSD faces, **MGT recommends the closure of the lowest scoring facility, Hallsville Elementary.** With the closure of Hallsville Elementary, the district utilization factor would be 89.4% (5,449/6,204), still within the "adequate space" range of 80% to 95%.

Middle School

Based on the 2019/20 enrollment, there are 630 excess seats at the middle school level. After the addition of the approximate 768 5th grade students there will be 138 insufficient seats, resulting in the middle school utilization factor of 103.7% (3,887/3,749). This is in the "approaching inadequate space" range of 95% to 110%.

The projected middle school enrollment is estimated to decline by approximately 463 students over the next ten years, resulting in an estimated utilization factor of 91.3% (3,424/3,749). Given this is in the "adequate space" range of 80% to 95%, **MGT recommends no change to the number of middle schools.**

High School

Based on the 2019/20 enrollment, there are 1,595 excess seats at the high school level, resulting in the high school utilization factor of 72.2% (3,882/5,377). This is in the "approaching inefficient use of space" range of 70% to 85%.

The projected high school enrollment is estimated to decline by approximately 955 students over the next ten years, resulting in an estimated utilization factor of 54.4% (2,927/5,377). Given the number of current

excess seats and the projected increase of excess seats, **MGT recommends reducing the high school facility inventory by combining Central and West high schools at the West campus.**

Reducing the inventory for high schools unfortunately is not as simple as choosing the lowest scoring high school. There are multiple complicating factors, such as school capacity, school location, athletic facilities, historical significance, and more.

West high school has the lowest combined score of 74, followed closely by Central High School with a combined score of 76. Both West and Central have a suitability score of 73. West has a higher building condition score of 75, whereas Central scored 72, however Central scored higher in technology readiness with a 90, compared to West's score of 76.

Central is larger and older than West and is situated in a more urban area. Due to the age and location of Central, it lacks the room for some modern athletic facilities. Another consideration is the cost of capital needs for each school. Because Central is larger and scored lower on building condition, the cost estimation to bring it to a combined score of 85 is almost double the cost estimation for West.

2. Renovate and/or construct new facilities to address condition and 21st century educational suitability of schools.

MSD should develop a long-range strategy to build new and renovate existing facilities to reduce deferred capital needs and improve learning environments which meet 21st century educational standards prioritizing the lowest scoring schools first.

MSD should consider updating their facilities by remodeling existing schools with the lowest capital improvement needs and building new 21st century schools to replace existing schools with the most capital improvement needs. Updated facilities reduce operation and utility cost as well as providing suitable educational space for modern education methodologies.

Selecting based upon the combined scores, Gossler Park (64), Smyth Road (68), and Wilson (71) would be the best candidates to replace with new construction either at their current location or acquired site.

3. Relocate Central office from West High School

The Central Office location on the third floor of the West campus creates several accessibility issues for staff and visitors. While there is elevator access to the office, it is only accessed through the Student section of the building creating not only an inconvenience to access but security issue at the school. Additionally, with the recommendation to merge Central and West high schools on the West campus, **MGT recommends relocating central office** to create more space for the merger.

Some options for the new location of Central Office:

- Empty Building at Central high school or Hallsville elementary school
- New construction at the Central high school, Hallsville elementary school, or other city/district owned site
- Vacant office or converted retail space available for lease/sale

4. Centralized early childhood education facility

MSD should consider establishing a stand-alone early childhood education facility. Having a centrally located early childhood education facility will allow MSD to concentrate resources in one location and

design the facility specifically for early childhood education.

5. Re-imagine what 21st century High School could look like in MSD.

As illustrated in this report, MSD high school enrollment has declined at a much higher rate than elementary and middle school enrollment indicating that high school students are choosing to leave the district. To retain and possibly recruit students from nearby communities, MSD should consider developing an educational program designed at capturing those high school students that are not completing their education with MSD. For example, remote and/or hybrid instruction, Performing arts, Visual Arts, Engineering, Cooperative on the job training opportunities, etc.

Once completed, MSD will have multiple educational opportunities to engage students in the learning style that is most appropriate for them, thus improving the high school cohort survival percentage, but more importantly, helping more students reach their potential.

6. Conduct a boundary review

As noted earlier, while some schools have excess seats, other schools are over-enrolled. Elementary school utilization factors range from a low of 76.8% to a high of 143%. Middle school utilization factors range from a low of 69% to a high of 93.9%. High school utilization factors range from a low of 53.9% to a high of 99.5%

A boundary review will re-design attendance boundaries to distribute enrollment more equally, so school's utilization is more uniform.

2.0 BACKGROUND

2.1 DISTRICT INFORMATION

Manchester School District is an urban school district encompassing downtown Manchester and the neighborhoods surrounding the city core. It is the largest and oldest district in the largest city in the state.

With a population of approximately 107,000, the city of Manchester is the largest city in Northern New England.

MSD serves more than 12,000 students, including approximately 2,000 students that are English Language Learners. The district consists of a developmental preschool program, 14 elementary schools, four middle schools, four high schools, including a Career and Technical Education Center, and a program for adult education.

MSD is governed by the Board of School Committee which is comprised of 15 members and chaired by the Mayor of the City of Manchester. The Board of School Committee adopted mission and promise statements to ensure a system-wide understanding of the district's goals. These statements guide the district and provide insight into the Board of School Committee's plans. The mission and promise statements are shown below:

MSD Mission

- Excellence and Equity: Every Classroom. Every Day.

MSD Promise

- Every Student in Manchester is known by name, served by strength and need, and graduates ready to lead in college, career, and community.

2.2 PROJECT BACKGROUND

In August of 2020, MSD contracted with MGT to conduct a facility audit to assess the utilization of space and develop a master plan to support the educational needs of MSD learners in coordination with the district's goals, vision, and promise. Using input from the community, the goal of a master plan is to create a blueprint or road map, based on best practice facility standards, that identifies and prioritizes facility needs, and presents strategies for effective and efficient facility improvement and usage over the planning period. For this project, the MGT team gathered facility and community data. This report provides findings and recommendations based on that information.

The project included the following tasks:

- ♦ Project initiation
- ♦ Policy, goals, and objectives formulation
- ♦ Comprehensive building inventory
- ♦ Facility assessments
- ♦ Community engagement
- ♦ Enrollment, capacity, and utilization projections
- ♦ Scenarios and prioritization
- ♦ Final facilities master plan
- ♦ Project management

The timeline for the project is shown below.

WORK PLAN TASKS	SEPT				OCT				NOV				DEC				JAN				FEB			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1.0 Project Initiation																								
2.0 Policies, Goals and Objectives																								
3.0 Comprehensive Building Inventory																								
4.0 Facility Assessments																								
5.0 Community Engagement																								
6.0 Enrollment Projections/Capacity Analysis																								
7.0 Scenario Draft Plan																								
8.0 Final Master Plan																								
9.0 Project Management																								

3.0 DEMOGRAPHICS, ENROLLMENT, SCHOOL CAPACITY, AND BUILDING EFFICIENCY

This section provides information about MSD demographics, enrollments, capacity, and efficiency. The data are presented in the following sections:

- 3.1** Introduction
- 3.2** Demographics
- 3.3** Enrollment
- 3.4** School Capacity
- 3.5** Building Efficiency
- 3.6** Conclusions

3.1 INTRODUCTION

MSD is a complex school district serving an urban and suburban area with many neighborhoods. Families in Manchester are afforded a wide array of choices for their child's education, including public schools, parochial schools, and charter schools. Manchester families can also choose to send their children to an adjoining school district.

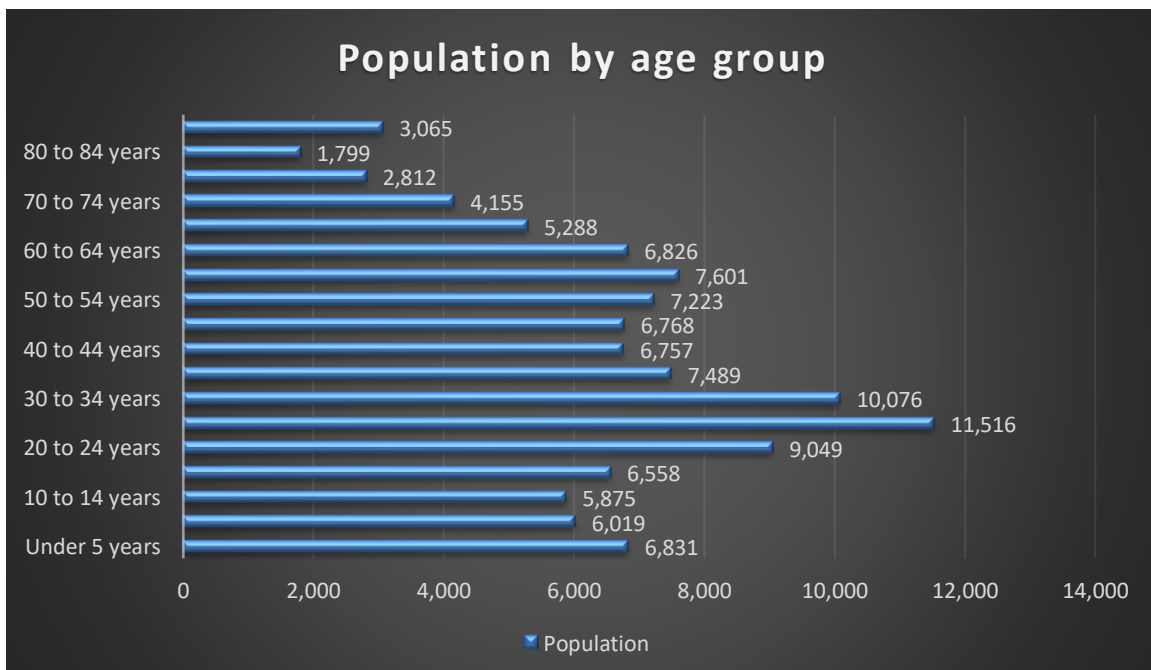
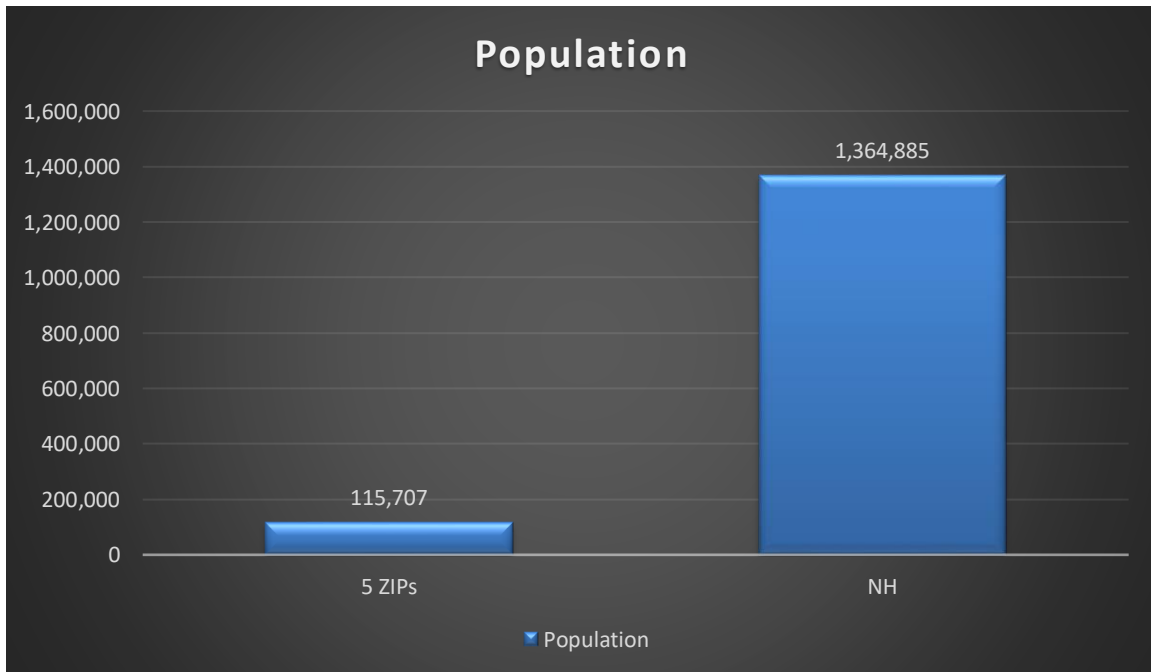
MGT prepared enrollment projections for the district by grade level. The forecast reflects local demographic and historical enrollment trends for the district. To analyze efficiency over the 10-year enrollment projection, MGT divided projected enrollment by the district's total capacity.

Based on the data gathered, MGT concludes that the enrollment will continue to decline before leveling off and MSD has too many buildings. The following subsections will provide the rationale behind this conclusion.

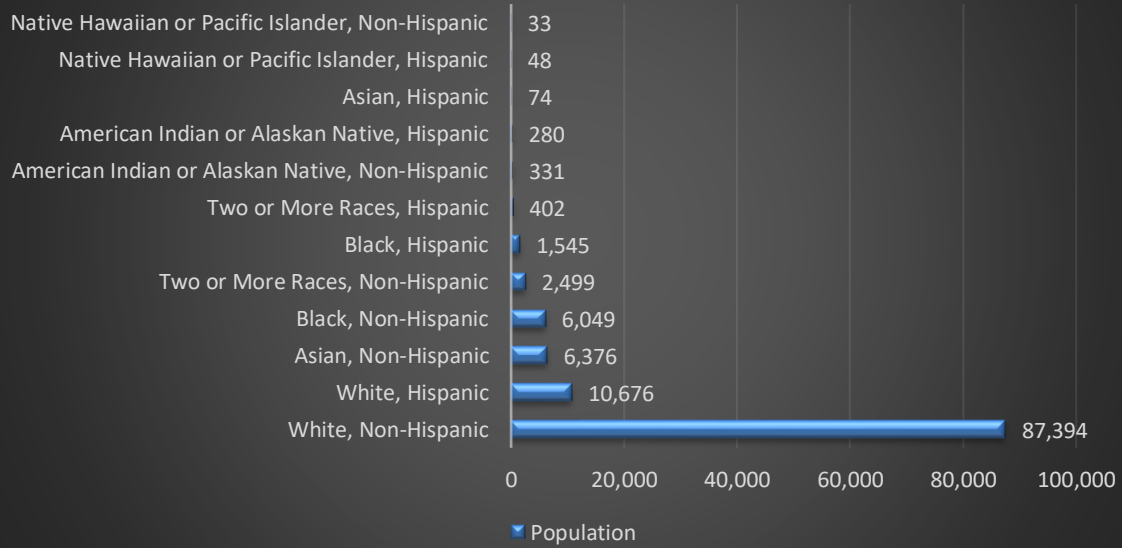
3.2 DEMOGRAPHICS

MGT gathers demographic information by zip code from a variety of public information sources including the U.S. Census. For the purposes of this report, the following zip codes were used:

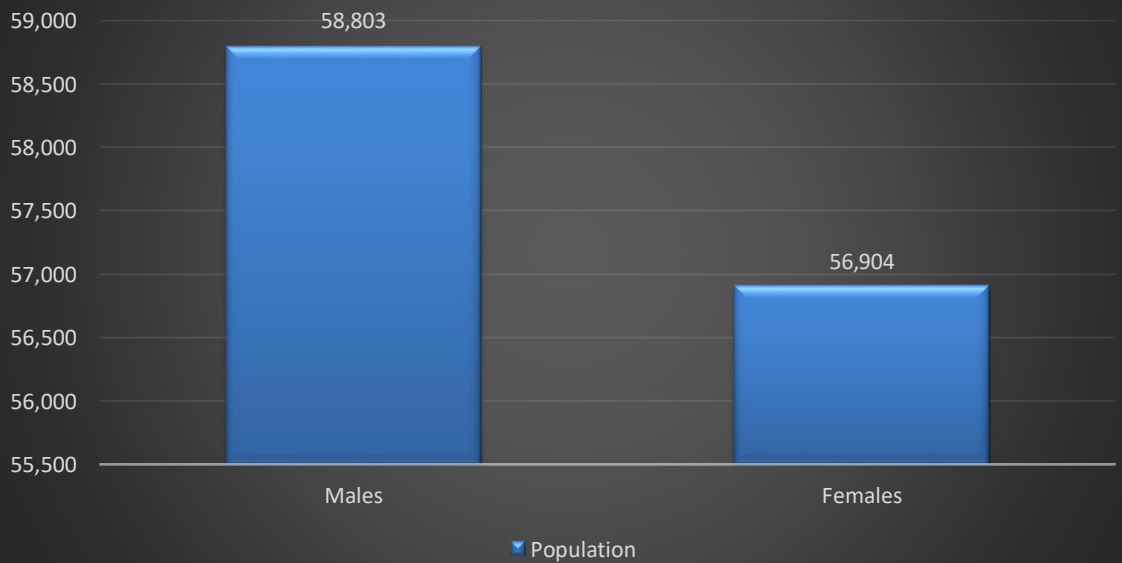
- 03101
- 03102
- 03103
- 03104
- 03109



Population by Race/Ethnicity



Population by Gender



3.3 ENROLLMENT

Total PK-12 enrollment in MSD stood at 15,536 students in 2011-12. Since then, enrollment has decreased to 12,642 in 2020-21. Total enrollment has decreased by 18.6%, but it is important to look further into enrollment at school levels, particularly the high school level. In 2011-12, high school enrollment was 5,543 and has decreased to 3,889 in 2020-21. This is a decrease of 29.8%.

Historical Enrollment										
Grade	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PK	279	275	325	358	360	359	351	400	388	259
K	989	1103	1033	1069	1014	1036	1013	968	999	728
1 st	1208	1154	1229	1171	1158	1049	1105	1041	1028	988
2 nd	1117	1119	1098	1167	1123	1089	1019	1090	1006	962
3 rd	1039	1079	1101	1087	1119	1100	1060	979	1054	973
4 th	1099	1005	1066	1075	1068	1058	1063	1039	974	1025
5 th	996	1082	990	1067	1045	1055	1052	1064	976	943
6 th	1047	1007	1081	956	1028	1000	975	985	985	936
7 th	1071	1044	1000	1091	961	1012	992	977	971	975
8 th	1148	1022	980	989	1052	938	977	959	955	964
9 th	1746	1658	1361	1279	1248	1287	1123	1217	1184	927
10 th	1269	1293	1297	1170	1094	1047	1100	923	999	1096
11 th	1369	1260	1191	1235	1068	1011	973	1060	883	998
12 th	1159	1041	985	1004	980	846	818	774	816	868
PK to 5	6727	6817	6842	6994	6887	6746	6663	6581	6425	5878
6 to 8	3266	3073	3061	3036	3041	2950	2944	2921	2911	2875
9 to 12	5543	5252	4834	4688	4390	4191	4014	3974	3882	3889
Grand Total	15536	15142	14737	14718	14318	13887	13621	13476	13218	12642

An enrollment projection is an estimate of future activity based on the historical data and information provided. To prepare projections for each school, MGT looked at such factors as historical live birth data, kindergarten capture rate, live birth to kindergarten correlation coefficient, permit data, and student-age population rates as input. These factors helped to generate projections that are tailored to MSD. To identify trends and prepare for adequate spaces, teaching staff, materials, and supplies, educational leaders can use several methods of projecting enrollment.

MGT utilized four base models: Average Percentage Increase, Cohort Survival, Linear Regression, and Student-Age of Population. MGT generates a weighted average of these four “base” models to arrive at its enrollment projection. A weighted average allows the analysis to reflect all the trends observed in the historical data and the over-arching themes from the qualitative information gathered in this process. The weighted average also works to maximize the strengths of each of the base models.

AVERAGE PERCENTAGE INCREASE MODEL

This model calculates future school enrollment growth based on the historical average growth from year to year for each grade level. This simple model multiplies the historical average percentage increase (or decrease) by the prior year’s enrollment to project future enrollment estimates. For example, if enrollment in the first grade decreased 5 percent from 2000 to 2001 and decreased 7 percent from 2001 to 2002, then the average percentage change would be a 6 percent decrease, and 6 percent would be the factor used to project future enrollment in this base model.

LINEAR REGRESSION MODEL

This model uses a statistical approach to estimate an unknown future value of a variable by performing calculations on known historical values. Once calculated, several future values for different future dates can then be plotted to provide a trend line or “regression line.” MGT has chosen a “straight-line” model to estimate future enrollment values, a model that finds the best fit based on the historical data.

COHORT SURVIVAL MODEL

This model calculates the growth or decline in a grade level over a period of five years based on the ratio of students who attend each of the previous years, or the “survival rate.” This ratio is then applied to the incoming class to calculate the trends in that class as it “moves” or graduates through the school system. For example, if history shows that between the first and second grades, the classes for the last ten years have grown by an average of 3.5 percent, then the size of incoming classes for the next ten years is calculated by multiplying them by 103.5 percent. If the history shows a declining trend, the multiplying factor would be 100 percent minus the declining trend number. The determination of future kindergarten enrollment estimates is critical, especially for projections exceeding five years. There are two methods of projecting kindergarten. The first model is based on the correlation between historical birth rates (natality rates) obtained from zip code birth data and household counts from Census, and historical kindergarten enrollment. The second model uses a linear regression line based on the historical kindergarten enrollment data.

STUDENT-AGE OF POPULATION MODEL

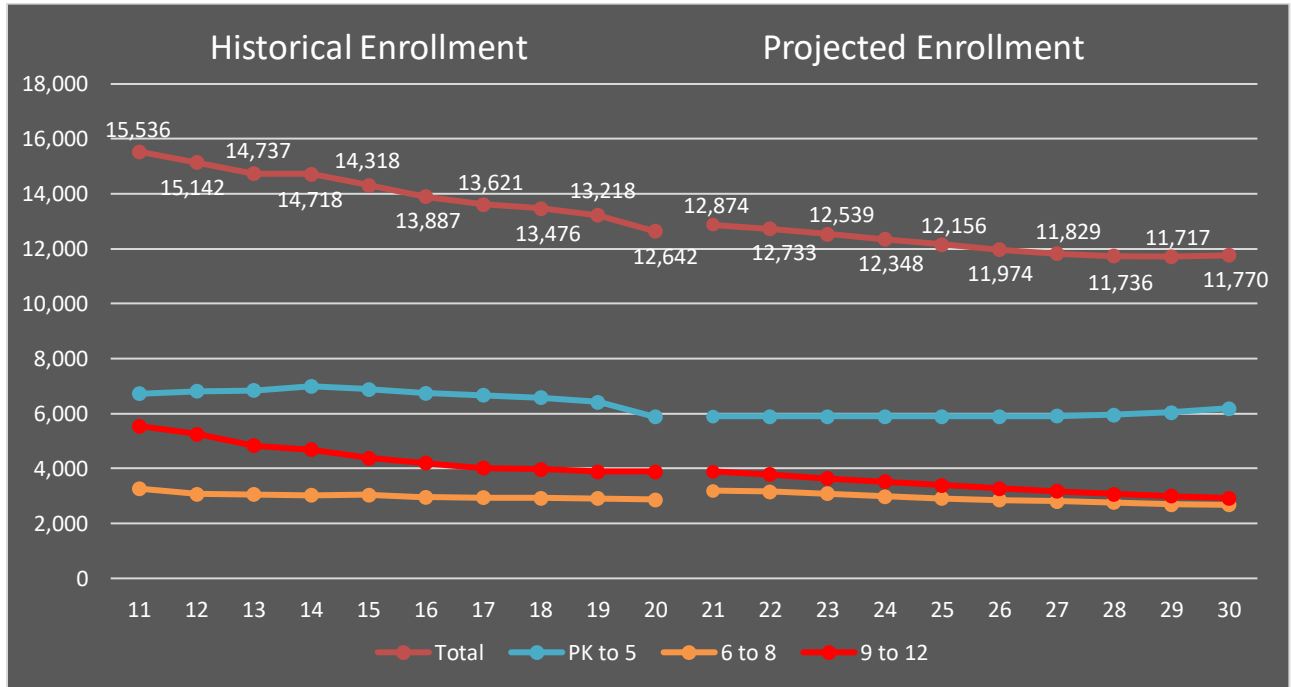
This last model utilizes age related population data as its base data. Using the student-age population data and historical enrollment data, MGT created a student generation factor (SGF) for each school level (Elementary, Middle, and High) based upon population of the age groups of those school levels. This factor indicates the number of students within each school level that can be expected based upon population projections. By using population projections and historical enrollment data, MGT projected future enrollment.

Once each of these four base models has been calculated, MGT generated a weighted average of each of the models. A weighted average allows the analysis to reflect all the trends observed in the historical data and the over-arching themes from the qualitative information gathered in this process.

The weighted average also works to maximize the strengths of each of the base models. Two models, the Average Percentage Increase Model, and the Linear Regression Model, emphasize historical data. These models are quite effective predictors if there is no expectation of unusual community growth or decline and student population rates have minimal fluctuation.

The Cohort Survival Model also uses historical enrollment numbers but considers student-mobility patterns and the effects of the natality rates in prior years. The Cohort Survival Model is perhaps the best-known predictive tool using this type of data. However, like the Annual Percentage Annual Increase Model and the Linear Regression Model, the Cohort Survival Model loses its predictive capabilities in communities that experience, or are expecting to experience, more rapid growth or rapid decline.

The Student-Age of Population Model allows the planner to consider projections for population growth within the school district and surrounding area. This model looks forward and is based on local population data as well as housing planning information.



Given this information and data, MSD can reasonably expect enrollment to continue to decline before leveling off by 2030.

3.4 SCHOOL CAPACITY

The functional capacity of a school is defined as the number of students a building can support based on the program of studies offered and educational standards. For this review, MSD requested the functional capacity be set according to the class size approved by the Board of School Committee in the spring of 2018:

- ♦ Kindergarten 20 Students
- ♦ Grades 1 - 2 20 to 22 Students
- ♦ Grades 3 - 5 22 to 25 Students
- ♦ Grades 6 - 8 25 to 27 Students
- ♦ Grades 9- 12 (non-lab) 30 Students
- ♦ Grades 9 - 12 (lab) 24 Students

The functional capacity is based on the number of classrooms including art and music rooms at the elementary schools, and space for students with special needs at all levels. The functional capacity was then multiplied by a utilization factor to calculate the programmatic capacity for each school.

Grade Level	Utilization Factor
Elementary	.95
Middle	.9
High	.85

The following table identifies the capacity of each MSD school based on the structure shown above.

School	Functional Capacity	Utilization Factor	Programmatic Capacity
Central High	2368	.85	2,013
Memorial High	1790	.85	1,522
MST High	459	.85	390
West High	1708	.85	1,452
High School Total	6,325		5,377
Hillside Middle	1050	.9	945
McLaughlin Middle	1008	.9	907
Parkside Middle	995	.9	896
Southside Middle	1112	.9	1,001
Middle School Total	4,165		3,749
Bakersville Elementary	301	.95	286
Beech Street Elementary	584	.95	555
Gossler Park Elementary	499	.95	474
Green Acres Elementary	528	.95	502
Hallsville Elementary	321	.95	305

Highland-Goffe's Falls Elementary	499	.95	474
Jewett Elementary	440	.95	418
McDonough Elementary	598		568
Northwest Elementary	608	.95	578
Parker-Varney Elementary	560	.95	532
Smyth Road Elementary	453	.95	430
Webster Elementary	504	.95	479
Weston Elementary	540	.95	513
Henry Wilson Elementary	416	.95	395
Elementary School Total	6,851		6,509

3.5 BUILDING EFFICIENCY

The effective management of school facilities requires a school's capacity and enrollment to be aligned. When capacity exceeds enrollment, operational costs are higher than necessary, and facilities may need to be repurposed or the facilities may need to be removed from inventory. When enrollment exceeds capacity, the schools may be overcrowded and may require capital expenditures or redistricting (adjustment to attendance boundaries) to alleviate the crowding.

MGT has created an "efficiency" score for each school. Using building capacity data and the 2019-20 enrollment, MGT defined the efficiency of each building, calculated by dividing enrollment by each building's programmatic capacity. The key, below, shows the building efficiency rates calculated using programmatic capacities and the current enrollment at each school. The building efficiency rates are color-coded to identify best practices for building use. Nationally recognized "best practices" indicate capacity rates that are either too high or too low are problematic: too high means there is inadequate space for the enrollment and program; too low means there is inefficient use of space for the enrollment and program.

EFFICIENCY RATE	DESCRIPTION
> 110	Inadequate Space
95 - 110	Approaching Inadequate Space
80 - 95	Adequate Space
70 - 80	Approaching Inefficient Use of Space
< 70	Inefficient Use of Space

In MSD, some schools have inefficient space, while other schools have inadequate space based on the analysis described above. There are three schools based upon the programmatic capacity that have enrollment efficiency ratings of less than 70%. These schools are significantly under-utilized. They may have empty spaces or may have expanded people/programs to occupy the spaces. They may or may not have created spaces for all required programs – e.g., art and music – because they may not have staff to lead these programs.

There are also two schools based upon the programmatic capacity that have enrollment efficiency ratings of more than 110%. These schools are significantly over-utilized. They have no empty spaces and likely have expanded people/programs into every possible location in the building. The buildings with over-capacity likely lack core space – restrooms, media center, cafeteria, hall spaces - to accommodate the enrollment. They may have to operate with multiple lunch periods and may be moving students at different times to reduce over-crowding in corridors.

School	Programmatic Capacity	2019/20 Enrollment	Efficiency Rate	Students Under/Over Capacity	2030 Projected Enrollment	2030 Projected Efficiency Rate
Central High	2,013	1,306	64.9%	-707	806	40%
Memorial High	1,522	1,405	92.3%	-117	930	61.1%
MST High	390	388	99.5%	-2	671	172%
West High	1,452	783	53.9%	-769	520	35.8%
High School Total	5,377	3,882	72.2%	-1,595	2,927	54.4%
Hillside Middle	945	857	90.7%	-88	633	67%
McLaughlin Middle	907	730	80.5%	-177	709	78.2%
Parkside Middle	896	841	93.9%	-55	779	86.9%
Southside Middle	1,001	691	69%	-310	535	53.4%
Middle School Total	3,749	3,119	83.2%	-630	2,656	70.8%
Bakersville Elementary	286	410	143.4%	124	466	162.9%
Beech Street Elementary	555	566	102%	11	548	98.7%
Gossler Park Elementary	474	364	76.8%	-110	381	80.4
Green Acres Elementary	502	489	97.4%	-13	504	100.4%
Hallsville Elementary	305	261	85.6%	-44	264	86.6%
Highland-Goffe's Falls Elementary	474	424	89.5%	-50	429	90.5%
Jewett Elementary	418	395	94.5%	-23	376	90%
McDonough Elementary	568	481	84.7%	-87	456	80.3%
Northwest Elementary	578	553	95.7%	-25	551	95.3%
Parker-Varney Elementary	532	468	88%	-64	406	76.3%
Smyth Road Elementary	430	427	99.3%	-3	448	104.2%
Webster Elementary	479	425	88.7%	-54	371	77.5%
Weston Elementary	513	514	100.2%	1	495	96.5%
Henry Wilson Elementary	395	440	111.4%	45	491	124.3%
Elementary School Total	6,509	6,217	95.5%	-292	6,186	95%

Like many urban districts with declining enrollment, MSD has overall excess capacity. To better utilize space, MSD has executed a variety of moves and efforts over the last several years. MSD made the decision to move the 5th grade from elementary schools to middle schools and has started to implement this program. Along with moving 5th grade to middle schools, MSD moved their central offices to the third floor of West High School. The move of central offices to West High School has brought challenges associated with co-locating with a school as well as ADA compliance complaints due to the only access to an elevator is through the high school portion of the building.

YEAR	GRADE LEVEL	ENROLLMENT/ PROJECTION	CAPACITY	EXCESS SEATS
2019/2020	Elementary	6,217	6,509	292
	Middle	3,119	3,749	630
	High	3,882	5,377	1,595
2030/2031	Elementary	6,186	6,509	323
	Middle	2,656	3,749	1,093
	High	2,927	5,377	2,450

Source: District data and MGT of America Consulting, LLC projections, 2020.

The enrollment/capacity gap varies among the district's school grade levels. As shown in the table above, the elementary school and high school levels have the largest difference between enrollment and capacity. The middle school level currently operates with the smallest difference between enrollment and capacity.

It is important to note the district's average efficiency rating across all grade levels is approximately 84.5%, which is within the adequate range of 80% - 95%. However, that percentage is an average, which obscures the real story. As described earlier, there are schools that are significantly over-enrolled/utilized as well as schools that are significantly under-enrolled/utilized.

As shown in the table above, there are currently a combined total of 2,993 "empty seats" across all grade levels. When capacity and enrollment are not balanced, the district is spending resources on those empty spaces for non-instructional salaries and operations.

MGT created a cost estimate for empty seats with data from a national source. Using the American School and University magazine's annual review of Maintenance and Operations (M&O) costs², and a conservative conversion estimate of seats into students of 65% (since scheduling varies between elementary, middle, and high schools and thus seat conversion is not a one-to-one correlation). MGT conservatively estimates that MSD is spending \$1,602,739.53 on empty seats in FY 2020-21 (2,993 empty seats x 65% x \$823.84/student). Over the next ten-years, the district could spend more than \$16,000,000 in M&O costs for empty seats if efforts are not taken to reduce the excess capacity.

² Maintenance and operations cost calculations were determined using the American University Study 2006-2007. <http://www.asumag.com/maintenance/36th-annual-maintenance-operations-cost-study-schools>.

4.0 COMMUNITY ENGAGEMENT

On October 23, 2020, MGT engaged MSD stakeholders via an online Qualtrics survey that generated a significant number of responses. The survey was available to for two weeks and stakeholders were reminded to take the survey several times during the two-week period. The survey was offered in the following languages to ensure availability to as many stakeholders as possible:

- English
- Bosnian
- French
- Vietnamese
- Hindi
- Croatian
- Portuguese
- Romanian
- Russian
- Albanian
- Swahili
- Ukrainian
- Arabic
- Spanish
- Urdu
- Chinese

4.1 PARTICIPATION

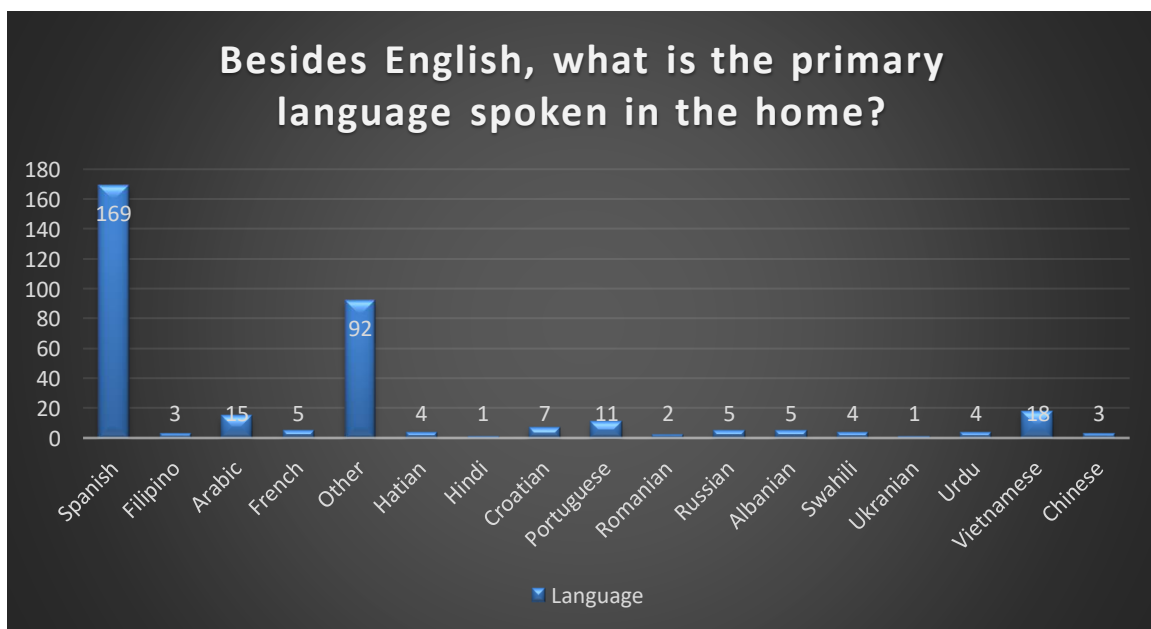
The survey had a total of 4,302 respondents. Respondents were not required to complete any survey question, which means that the total number of responses for each question can vary.

The race/ethnicity of 4,055 respondents was 88.34% White, 10.96% Hispanic/Latino of any race(s), 4.81% Other Races, 3.6% Black/African American, 2.44% Asian, 0.69% American Indiana/Alaskan Native, and 0.12% Native Hawaiian/Other Pacific Islander.

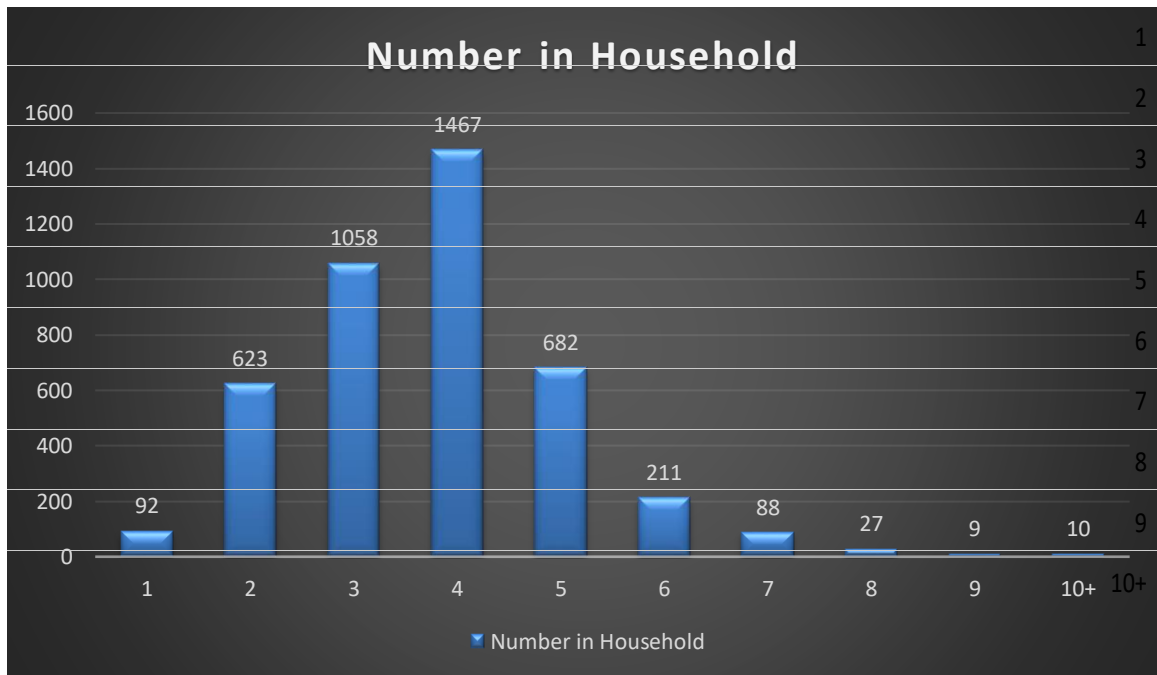
Respondents reported having students attending every school and every grade level.

4.2 ONLINE SURVEY - DATA

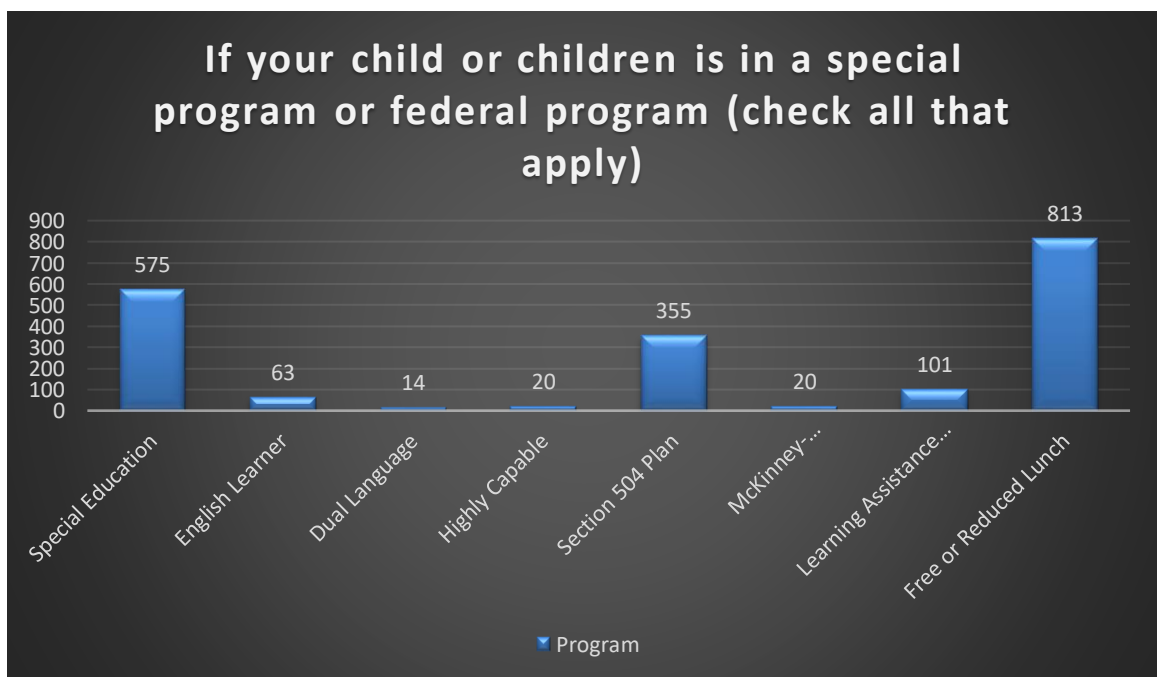
Besides English, what is the primary language spoken in the home?



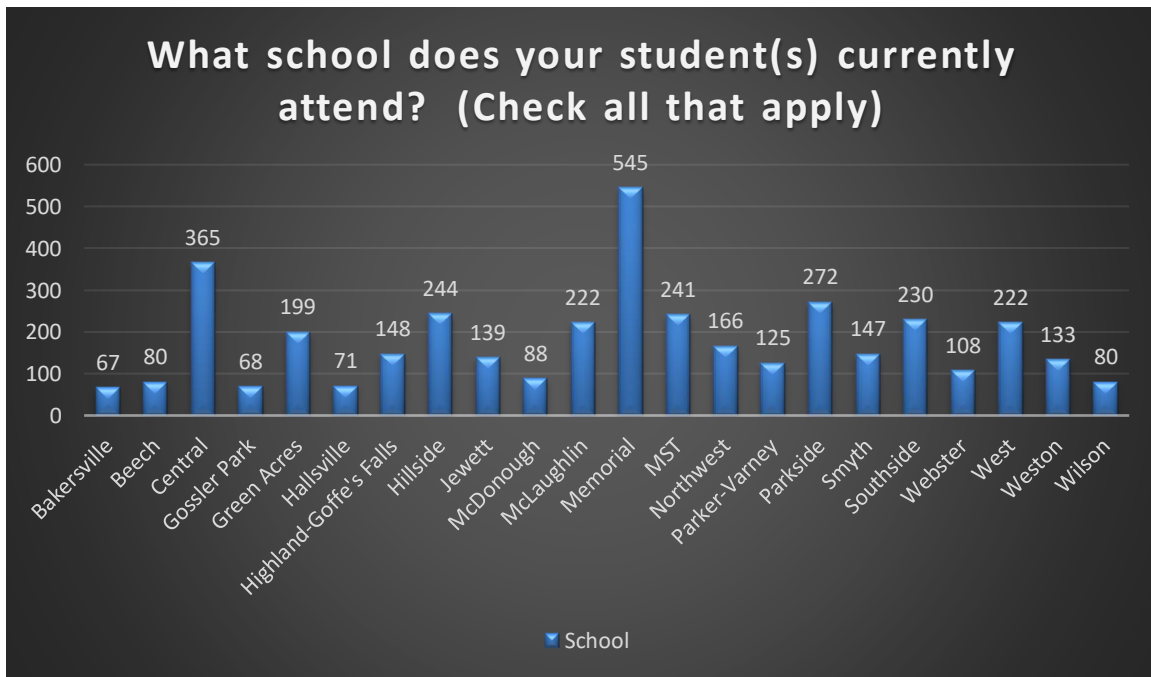
How many people are in your household?



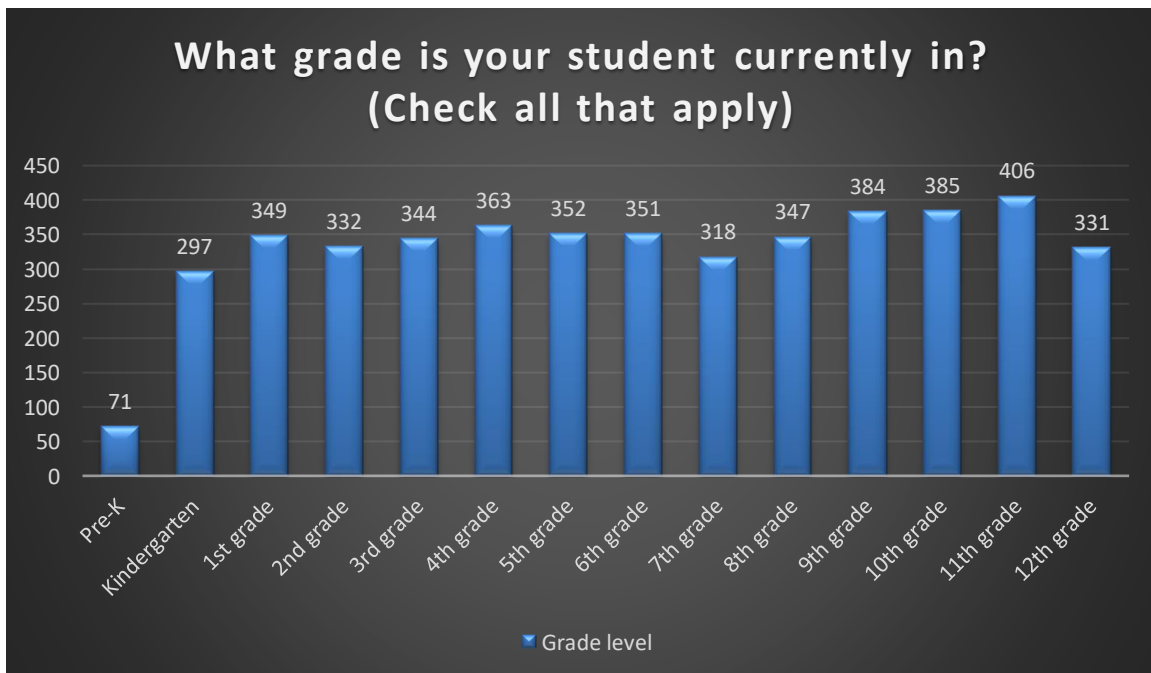
If your child or children is in a special or federal program (Check all that apply)



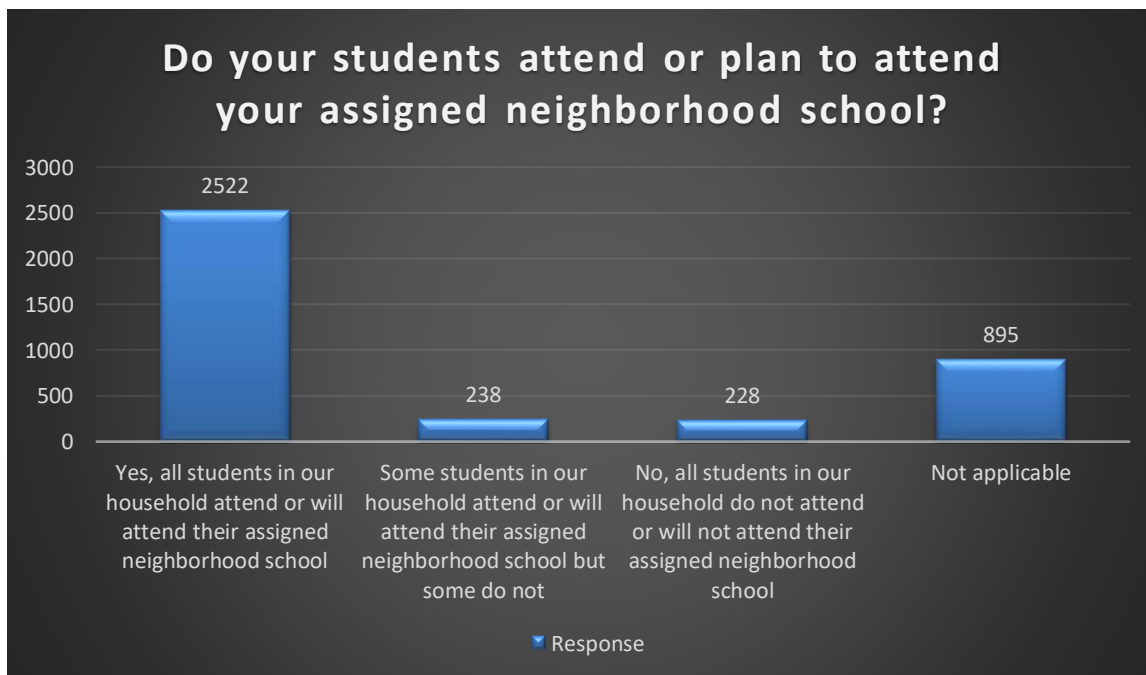
What school does your student(s) currently attend? (Check all that apply)



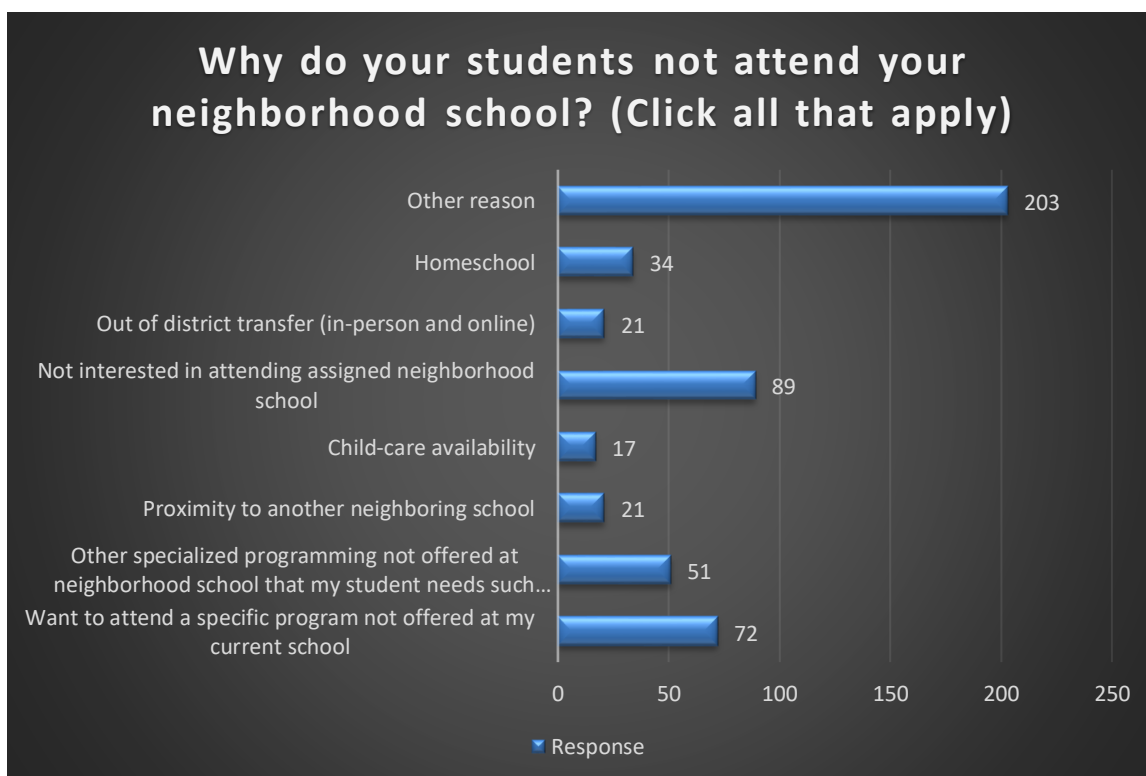
What grade is your student currently in? (Check all that apply)



Do your students attend or plan to attend your assigned neighborhood school?



Why do your students not attend your neighborhood school? (Check all that apply)



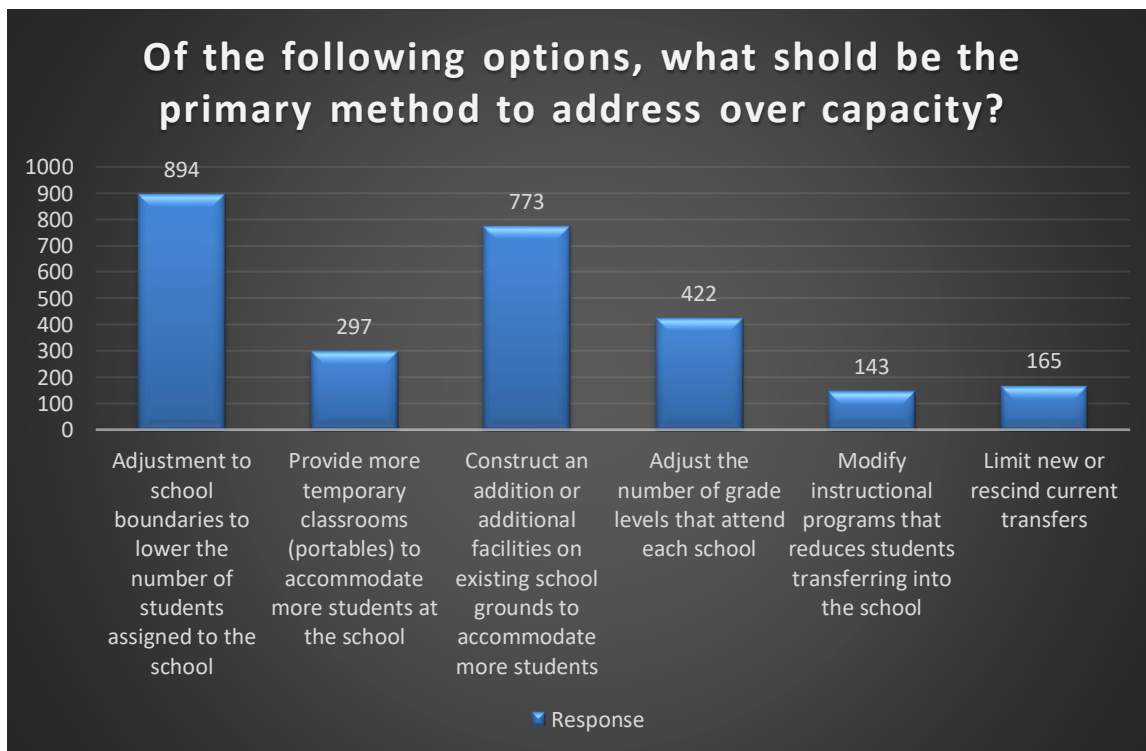
Rank order why you choose to live in your current residence?

Rank Order	1	2	3	4	5	6	7	8
To attend MSD (in general)	577	443	440	455	458	500	574	264
To attend a specific neighborhood school	418	714	547	522	504	483	428	95
Affordability	1068	682	823	552	292	176	86	32
Proximity to employment	435	768	635	850	548	286	148	41
Community resource such as place of worship, community center, athletic facility, etc.	76	178	312	425	1024	815	717	164
Character of neighborhood	733	593	506	374	323	788	321	73
Natural features	99	260	381	475	502	563	1235	196
Other Reason	305	73	67	58	60	100	202	2846

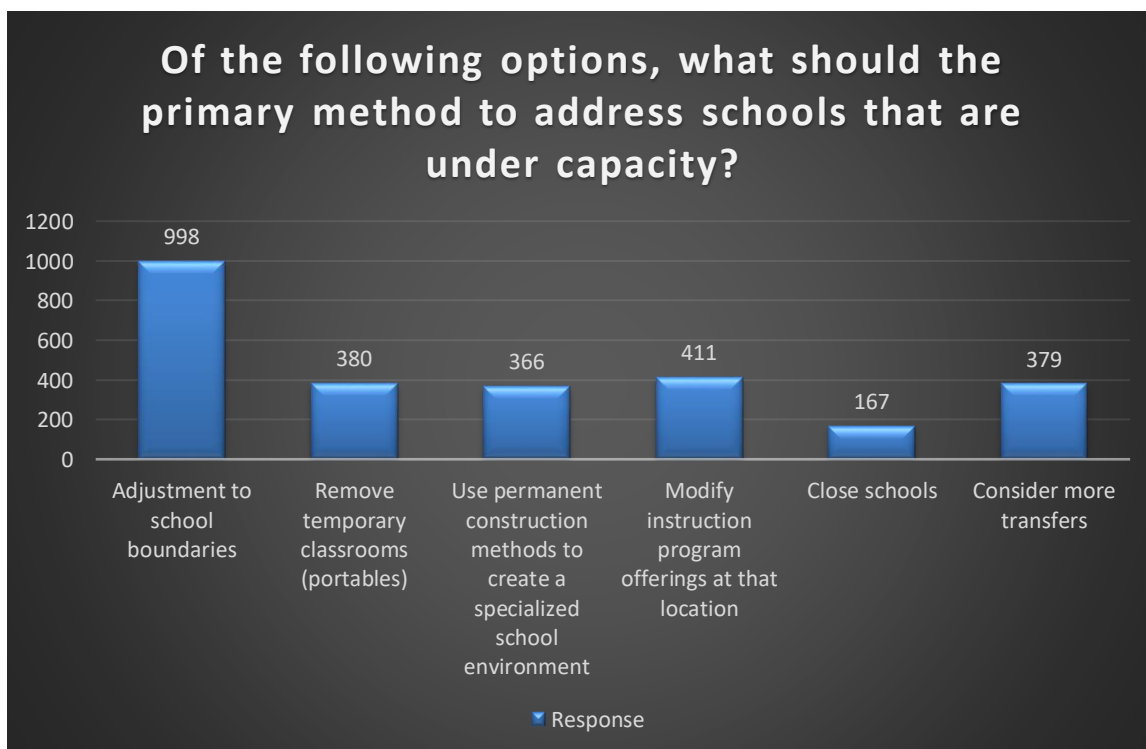
Rank order the most important factors to consider for this capacity/utilization review?

Rank Order	1	2	3	4	5	6	7	8	9
Free up space in Manchester's elementary schools	315	313	323	386	490	419	325	212	46
Reduce elementary school class sizes	343	581	430	367	356	326	259	137	30
Address the challenge of declining enrollment and align space accordingly	92	146	397	420	416	519	506	305	28
Identify more efficient and effective utilization of our buildings	105	170	290	522	510	492	473	243	24
Strengthen our elementary, middle, and high schools (e.g., increase student engagement, improve the educational experience for students and families)	800	610	403	281	337	227	118	44	9
Enhanced educational program opportunities	195	568	570	381	276	389	305	130	15
Neighborhood and community traditions	29	78	98	168	220	303	652	1172	109
Safety and security	891	331	297	290	204	142	141	470	63
Something else	59	32	21	14	20	12	50	116	2505

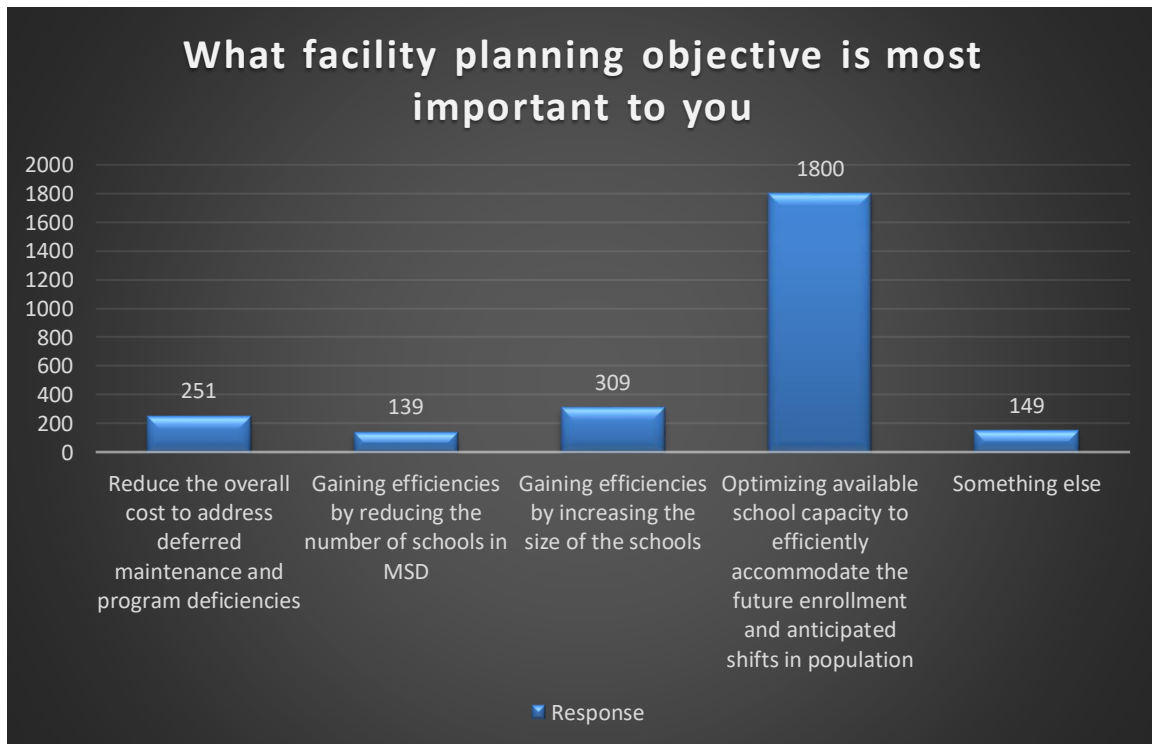
Of the following options, what should be the primary method to address over capacity?



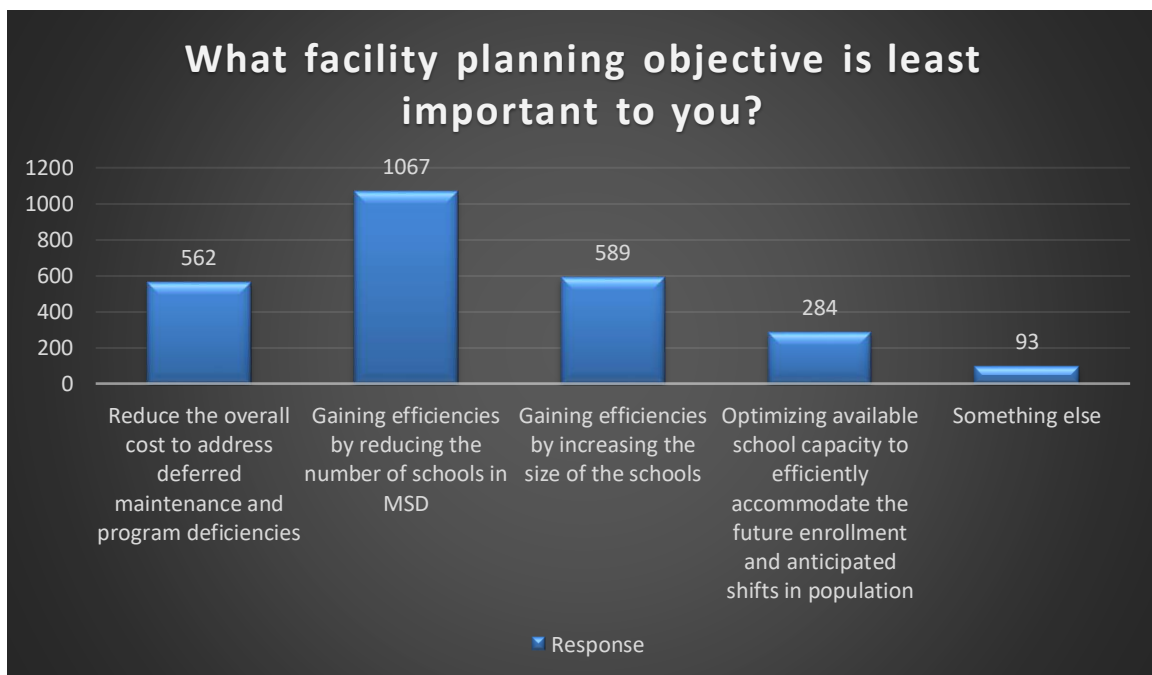
Of the following options, what should be the primary method to address schools that are under capacity?



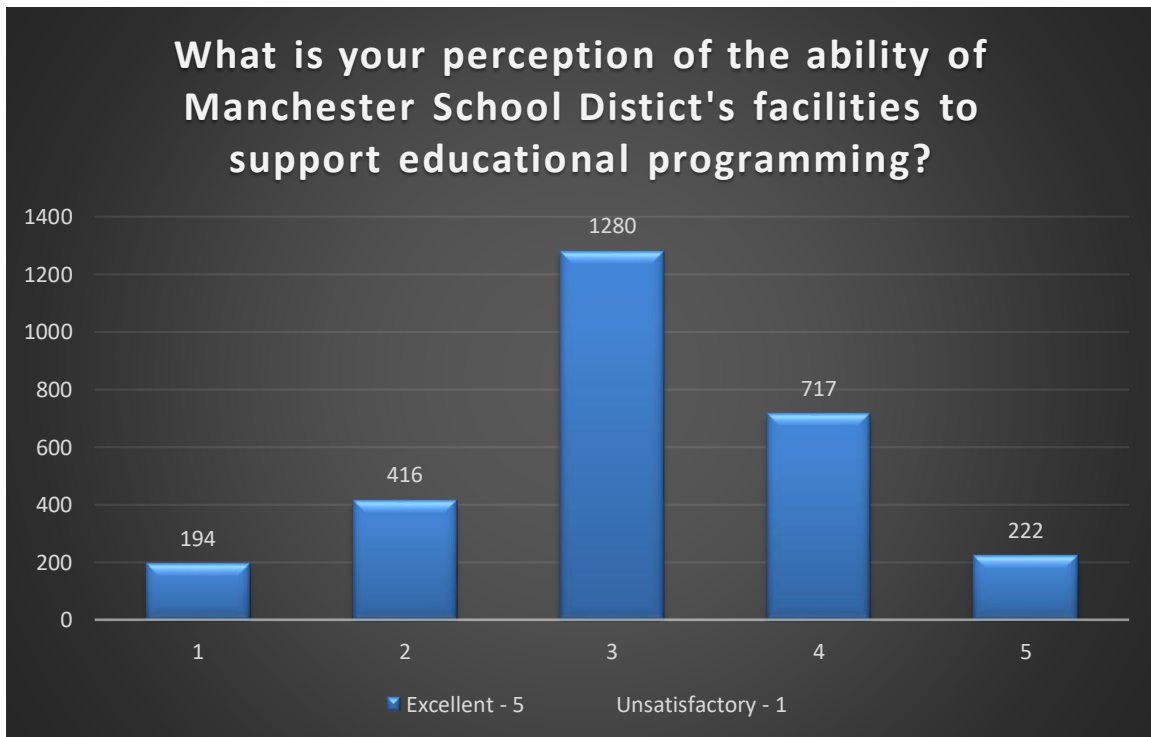
What facility planning objective is most important to you?



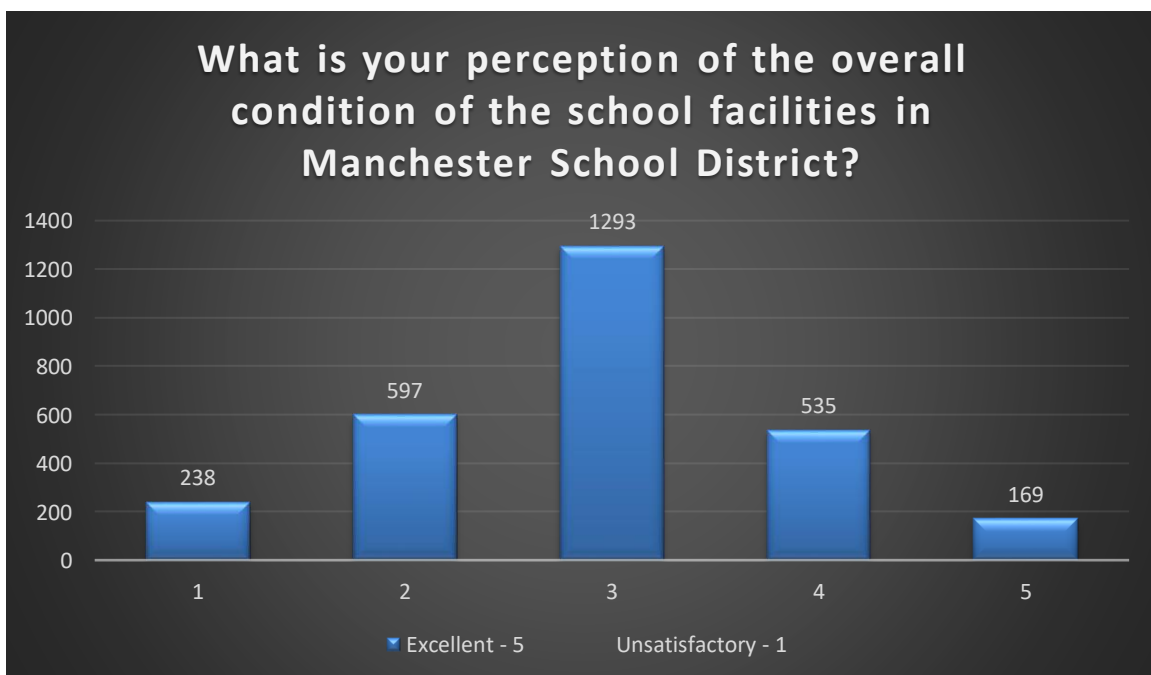
What facility planning objective is least important to you?



What is your perception of the ability of Manchester School District's facilities to support educational programming?



What is your perception of the overall condition of the school facilities in Manchester School District?



FINDINGS FROM INITIAL SURVEY

- ♦ Respondents represented every school with Memorial High School having the most (545) and Bakersville Elementary School having the least (67)
- ♦ Respondents represented every grade level, with 11th grade having the most (406) and Pre-kindergarten having the least (71)
- ♦ Adjusting school attendance boundaries was listed as the preferred way to address schools that are over and under capacity
- ♦ Optimizing available school capacity to efficiently accommodate the future enrollment and anticipated shifts of population is the most important facility planning objective to respondents
- ♦ Gaining efficiencies by reducing the number of schools in MSD is the least important facility planning objective to respondents

5.0 FACILITY ASSESSMENTS

This section presents the results of the facility assessments that were conducted by the MGT project team.

MSD schools were scored in three areas:

- ♦ Building/Site condition – physical condition of all building systems
- ♦ Educational suitability – ability of the facility to support and enhance educational program delivery
- ♦ Technology readiness – level to which the building infrastructure supports information technology

The building/site condition scores were determined by utilizing the deferred maintenance and renovation expense as outlined in the Manchester School District Facility Condition Assessment (March 2020). The educational suitability and technology readiness assessments were conducted by a trained educator who walked each site with the principal/designee. The three scores were weighted to create a Combined Score that makes it easier to develop priorities across all the assessments.

The weighting formula for the combined scores is shown below:

- ♦ Building/Site condition – 50%
- ♦ Educational suitability – 30%
- ♦ Technology readiness – 20%

Each area scored based on a 100-point scale. Scores are interpreted as shown on the following chart.

NUMERICAL SCORE	INTERPRETATION
90 – 100	New or like new, Excellent
80 – 89	Good
70 – 79	Fair
60 – 69	Poor
Below 60	Unsatisfactory

The scoring is structured to measure the level of deficiencies as related to the total value of the building. Consequently, scores can be used to calculate the budgets required to remediate the deficiencies identified in the assessments. The BASYS® software produces a detailed report for each facility assessment which includes each deficiency identified.

The results of the assessments were reviewed with district staff to ensure accuracy and completeness.

5.1 BUILDING/SITE CONDITION ASSESSMENT

The building/site condition score measures the amount of deferred maintenance in the building's major systems. The building/site condition scores were determined by utilizing the deferred maintenance and renovation expense as outlined in the Manchester School District Facility Condition Assessment (March 2020). The scores are interpreted as follows:

90+	New or Like New: The building and/or a majority of its systems are in good condition, less than three years old, and only require preventive maintenance.
80-89	Good: The building and/or a majority of its systems are in good condition and only require routine maintenance.
70-79	Fair: The building and/or some of its systems are in fair condition and require minor to moderate repair.
60-69	Poor: The building and/or a significant number of its systems are in poor condition and require major repair, renovation, or replacement.
BELOW 60	Unsatisfactory: The building and/or a majority of its systems should be replaced.

The condition score rates each building as “New”, “Good”, “Fair”, “Poor”, or “Unsatisfactory” based on a detailed description of each rating. The possible score for each building is based on that building's contribution to the overall cost of building construction. The condition score and resulting calculations do not include the costs of any additions to increase the size or capacity of a school, site improvements, improvements for educational suitability, or technology readiness improvement.

The table below presents the range of the facility condition scores by site type. As shown, there is a range of condition scores, from 58 to 93 with the average condition scores in the “Fair” range.

SITE TYPE	FACILITY CONDITION SCORE RANGE		AVERAGE CONDITION SCORE
	LOW	HIGH	
Elementary Schools	58	93	75
Middle Schools	74	82	78
High Schools	72	79	76

5.2 EDUCATIONAL SUITABILITY ASSESSMENT

The educational suitability assessment evaluates how well the facility supports the educational program that it houses. Each site receives one suitability score which applies to all the buildings at the facility. The educational suitability/ functionality of each facility was assessed with BASYS® using the following categories:

ENVIRONMENT	The overall environment of the facility with respect to creating a safe and positive working/learning environment.
CIRCULATION	Pedestrian/vehicular circulation and the appropriateness of site facilities and signage.
SUPPORT SPACE	The existence of facilities and spaces to support the educational/governmental program being offered. These include offices, general classrooms, special learning spaces (e.g. music rooms, libraries, science labs), and support spaces (e.g. administrative offices, counseling offices, reception areas, kitchens, health clinics).
SIZE	The adequacy of the size of the program spaces.
LOCATION	The appropriateness of adjacencies (e.g., physical education space separated from quiet spaces).
STORAGE & FIXED EQUIPMENT	The appropriateness of utilities, fixed equipment, storage, and room surfaces (e.g. flooring, ceiling materials, and wall coverings) as well as safety and program equipment (e.g., kiln, sinks, safety shower/eyewash equipment).

Suitability scores are interpreted as follows:

90+	Excellent: The facility is designed to provide for and support the educational/governmental program offered. It may have a minor suitability/functionality issues but overall, it meets the needs of the educational/governmental program.
80-89	Good: The facility is designed to provide for and support most of the educational/governmental program offered. It may have minor suitability/functionality issues but generally meets the needs of the educational/governmental program.
70-79	Fair: The facility has some problems meeting the needs of the educational/governmental program and will require remodeling/renovation.
60-69	Poor: The facility has numerous problems meeting the needs of the educational/governmental program and needs significant remodeling, additions, or replacement.
BELOW 60	Unsatisfactory: The facility is unsuitable in support of the educational/governmental program.

The table below presents the range and average of suitability scores by site type. The suitability scores range from 50 to 82. The average scores fall within the “Poor” to “Fair” range.

Site Type	SUITABILITY SCORE RANGE		AVERAGE SUITABILITY SCORE
	LOW	HIGH	
Elementary Schools	50	82	69
Middle Schools	73	78	64
High Schools	73	79	76

5.3 TECHNOLOGY READINESS

The BASYS® technology readiness score measures the capability of the existing infrastructure to support information technology and associated equipment. The technology infrastructure assessment was conducted by an assessor without any invasive or longitudinal speed or data usage measurements and should be viewed as a “snapshot in time.” The score can be interpreted as follows:

90+	Excellent: The facility has excellent infrastructure to support information technology.
80-89	Good: The facility has the infrastructure to support information technology.
70-79	Fair: The facility is lacking in some infrastructure to support information technology.
60-69	Poor: The facility is lacking significant infrastructure to support information technology.
BELOW 60	Unsatisfactory: The facility has little or no infrastructure to support information technology.

The table below presents the range of technology scores and the average technology scores by site type. Technology readiness scores vary from 71 to 100, with the average scores in the “Good” to “Excellent” range. These scores are higher than expected, especially in a district with older buildings (average age 70-years) and document the district’s effort to provide infrastructure and create robust technology-based opportunities for students and staff in all schools.

SITE TYPE	TECHNOLOGY READINESS SCORE RANGE		AVERAGE
	LOW	HIGH	
Elementary Schools	71	95	80
Middle Schools	79	100	92
High Schools	76	98	87

5.4 COMBINED SCORES

The building/site condition, educational suitability, and technology readiness scores are combined into one score for each facility to assist in the task of prioritizing projects. Since the condition score is a measure of the maintenance needs (e.g., leaky roofs, etc.) and the suitability score is a measure of how well the building design and configuration supports the educational program or building function, it is possible to have a high score for one assessment and a low score for another assessment. It is the combined score that attempts to give a comprehensive picture of the conditions that exist at each facility and how each facility compares relative to the other facilities in the district.

To create the Combined Score, the three scores are weighted. For MSD, the scores were weighted as shown below:

- ♦ Building/Site condition – 50%
- ♦ Educational suitability – 30%
- ♦ Technology readiness – 20%

The table below presents the range of the Combined Scores and the average scores by site type. The Combined Scores vary from 58 to 88, with the average scores in the “Fair” to “Good” range.

SITE TYPE	COMBINED SCORE (30/45/5/20)		AVERAGE
	LOW	HIGH	
Elementary Schools	58	88	74
Middle Schools	76	83	81
High Schools	74	83	78

5.5 FINDINGS

The three facility assessments have identified deficiencies in all areas of MSD facilities. While there are some exceptions, it is a fair generalization to say that some MSD school buildings are not providing an adequate environment for teaching and learning. The individual schools scoring less than 70 as a Combined Score will need the most attention. For those schools, there are a variety of challenges at the building level. Some scored poorly in the building condition assessment, while others did poorly in the suitability portion of the assessment.

These facility assessments provide the data to prioritize projects based on the overall facility needs of the district. These data, combined with the building efficiency analysis, will be used to develop master planning recommendations in **Section 6.0**.

School	Suitability Score	Tech Readiness Score	Building Condition Score	Combined Condition Score
West High	73	76	75	74
Northwest	76	71	81	77
Memorial	79	82	78	79
Jewett	70	84	81	79
Webster	66	93	76	76
Smyth Road	71	76	62	68
Hillside	81	90	82	83
McDonough	80	76	74	76
Bakersville	61	76	81	74
Beech Street	80	83	75	78
Highland-Goffe's Falls	82	83	93	88
Central	73	90	72	76
Wilson	65	74	74	71
MST	79	98	79	83
Southside	78	79	74	76
Green Acres	69	93	70	74
McLaughlin	80	100	78	83
Weston	65	95	86	81
Hallsville	50	67	58	58
Gossler Park	65	66	63	64
Parkside	73	100	78	81
Parker-Varney	70	88	75	76

6.0 MASTER PLAN RECOMMENDATIONS

This section presents the process utilized to determine priorities and prepare recommendations for master planning for the Board’s review. This section is divided into the following components

- ♦ **Findings** – a description of issues that MGT identified through the study process that have facility implications for short- and long-range planning.
- ♦ **Recommendations** – a set of issues that the Board may want to consider for school facility planning, including possible program placement changes, facility improvements, and opportunities for repurposing.

6.1 FINDINGS

Any long-range study includes gathering information and documenting issues, conditions, ideas, and data. In MSD, as described in earlier sections, this information has come from interviews, community surveys, document reviews, and on-site assessments of each of the district’s facilities.

MGT’s recommendations are based on the following findings:

1. MSD HAS MORE CAPACITY THAN NEEDED TO SUPPORT CURRENT AND PROJECTED STUDENT ENROLLMENT

Using the MSD board approved classroom sizes for calculating school capacity, there are some “empty seats” across the school district. Currently, there are nearly 3,000 empty seats and, without changes, the number is projected to grow to more than 3,800 over the next 10 years. Having “empty seats” carries several costs, including lost revenue and increased per student energy and operational costs. Without changes in the district’s facility inventory, these costs are projected to increase over time.

MGT created a cost estimate for empty seats with data from a national source. Using the American School and University magazine’s annual review of Maintenance and Operations (M&O) costs, and a conservative conversion estimate of seats into students of 65% (since scheduling varies between elementary, middle, and high schools and thus seat conversion is not a one-to-one correlation). MGT conservatively estimates that MSD is spending \$1,347,843.43 on empty seats in FY 2020-21 (2,517 empty seats x 65% x \$823.84/student). Over the next ten-years, the district could spend more than \$13,000,000 in M&O costs for empty seats if efforts are not taken to reduce the excess capacity.

2. MSD SCHOOLS ARE NOT EQUALLY ABLE TO PROVIDE 21ST CENTURY LEARNING ENVIRONMENTS THAT SUPPORT STUDENT PROJECTS, ENGAGEMENT, AND COLLABORATION

The average age of schools in MSD is 70 years. As buildings go, this is old. Most building systems – plumbing, lighting, heating, etc., – have “life-cycles.” Few building life cycles extend beyond 50 years.

In addition to facility condition issues, MGT gathered information about the suitability of each space to support instruction. Buildings planned and built before 1980 did not include space for Title I, English Language Support, Special Education, or technology. Those schools typically had classrooms, but no flexible learning spaces to support differentiated learning with small groups or various learning styles.


Data gathered from assessments of MSD schools provide evidence of the impact of the age of the schools

on the learning environment. Data gathered included Building/Site Condition, Educational Suitability, and Technology Readiness. The data assessments show the following:

- ♦ The average **technology readiness** score is “Excellent,” documenting the emphasis placed on student and faculty technology access over the last several years.
- ♦ The average **educational suitability** score is “Fair,” indicating deficiencies in meeting educational program needs in many schools.
- ♦ The average **building/site condition** score is “Fair” and there is a wide variation of scores with some schools having significant facility deficits.

3. THE DISTRICT’S ESTIMATED COST TO IMPROVE ALL FACILITIES TO A COMBINED SCORE OF 85 IN ALL FOUR ASSESSMENT CATEGORIES IS \$ \$92,792,206.69

Using construction cost data from School Planning & Management Magazine Annual School Construction Report, MGT estimated the cost to renovate each school.

REGION 1 MEDIAN NEW SCHOOLS (CT, ME, MA, NH, RI, VT)				<p>The median elementary school in Region 1 spent \$400.36 per square foot or \$86,619 for each of 629 students accommodated. Construction costs in Region 1 are higher than anywhere else (\$/square foot) but reporting throughout the region is consistent.</p> 
	Elementary	Middle	High	
\$/sq. ft.	\$400.36	\$371.59	\$387.75	
\$/student	\$86,619	\$67,628	\$80,474	
Sq. ft./student	214.2	182.6	193	
Students	629	1001	1118	
Size (sq. ft.)	103,650	182,059	222,826	
Total cost (\$000)	\$36,900	\$67,800	\$89,970	

School	Suitability Score	Suitability Renovation Estimate	Condition Score	Condition Renovation Estimate	Technology Score	Technology Renovation Estimate	Total Renovation Estimate
West High	74	\$2,381,153.53	75	\$6,347,178.24	76	\$145,756.63	\$ 8,874,088.40
Northwest	77	\$546,538.24	81	\$875,862.57	71	\$71,924.99	\$ 1,494,325.80
Memorial	79	\$1,151,995.96	78	\$4,489,442.40	82	\$50,365.93	\$ 5,691,804.29
Jewett	79	\$673,081.48	81	\$558,593.00	84	\$2,836.58	\$ 1,234,511.06
Webster	76	\$1,294,758.81	76	\$1,958,668.02	93	\$0	\$ 3,253,426.83
Smyth Road	68	\$737,338.51	62	\$4,057,596.15	76	\$40,637.70	\$ 4,835,572.36
Hillside	83	\$566,955.61	82	\$1,512,748.54	90	\$0	\$ 2,079,704.15
McDonough	76	\$411,985.24	74	\$2,731,080.08	76	\$58,686.06	\$ 3,201,751.37
Bakersville	74	\$1,306,505.90	81	\$658,924.02	76	\$40,929.87	\$ 2,006,359.79
Beech Street	78	\$447,457.17	75	\$2,775,969.41	83	\$12,036.09	\$ 3,235,462.66
Highland-Goffe's Falls	88	\$246,161.75	93	\$0	83	\$10,319.43	\$ 256,481.18
Central	76	\$3,628,428.13	73	\$13,110,510.87	90	\$0	\$ 16,738,939.00
Wilson	71	\$1,199,365.34	74	\$2,268,417.34	74	\$53,133.29	\$ 3,520,915.97
MST	83	\$781,820.33	79	\$2,409,866.25	98	\$0	\$ 3,191,686.58
Southside	76	\$908,949.48	74	\$4,932,687.21	79	\$60,771.28	\$ 5,902,407.97
Green Acres	74	\$1,050,692.20	70	\$3,173,159.28	93	\$0	\$ 4,223,851.47
McLaughlin	83	\$561,844.08	78	\$2,703,874.64	100	\$0	\$ 3,265,718.72
Weston	81	\$1,465,876.08	86	\$0	95	\$0	\$ 1,465,876.08
Hallsville	58	\$1,607,376.21	59	\$4,073,371.90	67	\$68,921.01	\$ 5,749,669.12
Gossler Park	64	\$957,923.37	63	\$3,564,630.16	66	\$75,767.41	\$ 4,598,320.94
Parkside	81	\$1,596,444.28	78	\$2,960,294.03	100	\$0	\$ 4,556,738.31
Parker-Varney	76	\$1,068,140.48	75	\$2,346,454.15	88	\$0	\$ 3,414,594.63

*Source – School Planning & Management Magazine Annual School Construction Report

Additional recommendations make clear that addressing the facility needs of each current building may not be the most efficient and effective way to address facility needs in the district, given the number of schools that are under- and over-utilized.

4. MSD'S HIGH SCHOOL COHORT SURVIVAL RATE IS VERY LOW

As shown in the table below, students entering high school choose not to stay in MSD. While analyzing the data, MGT noted there is a large drop in enrollment between the Freshman and Sophomore years and between the Junior and Senior years, although enrollment only decreases slightly between Sophomore and Junior Years. The survival percentage, or the percentage of incoming freshman that stay through their senior year, is consistently around 60% with the exception the 2017-2021 cohort.

When dissecting the 2017-2021 cohort data, it appears the decreases in enrollment follow the same pattern as the previous cohorts except there was not a significant drop between the Junior and Senior years. This may be due to the onset of remote instruction as a result of the Covid-19 pandemic.

Historical Enrollment											
Grade	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
9th	1698	1746	1658	1361	1279	1248	1287	1123			
10th		1269	1293	1297	1170	1094	1047	1100	923		
11th			1260	1191	1235	1068	1011	973	1060	883	
12th				985	1004	980	846	818	774	816	868
Cohort Survival %				58%	57.5%	59%	62%	64%	62%	63%	77%

5. HIGH DEFERRED MAINTENANCE, LIFECYCLE, & CAPITAL IMPROVEMENT COSTS

According to Manchester School District Facilities Condition Assessment (March 2020), MSD has more than \$158,000,000 of deferred maintenance, lifecycle, and capital improvement costs. Each of these are defined further below:

- Deferred Maintenance (DM) costs are defined as critical maintenance that has been delayed and will result in significant added costs, potential program curtailment or interruption, and/or liability issues. DM usually refers to critical components such as boilers, roofs, alarm panels, water heaters, etc.
- Lifecycle (LC) costs are defined as the investments necessary due to existing equipment or building components having worn out due to age. Replacements that are essential for the normal protection and preservation of the facilities' structural integrity and functional utility.
- Capital Improvement (CI) costs are defined as the investments that are recommended to install additional systems or improvement dedicated to raise the facility, electrical/mechanical systems, and/or architectural systems to currently acceptable standards.

6.2 RECOMMENDATIONS FOR LONG-RANGE FACILITY MASTER PLANNING

Based on the findings described above, MGT recommends that the Manchester Board of School Committee develop a long-range plan that includes the activities described below. Each activity addresses issues found in the district during this project.

1. Reduce capacity/number of facilities across the district to allow for reallocation of funds to support instruction.

Schools should be re-purposed/closed based on identified criteria, including facilities that do not meet program standards, are high in operational or energy costs, do not have ADA access, have difficulty meeting student achievement standards, or have other issues.

Major Criteria for Repurposing/closure selection:

- Combined Score for facility assessments
- Distribution of schools aligned to distribution of students
- Deferred maintenance costs
- Utility costs
- Strategic land use planning
- Program considerations
- Access issues and transportation issues

Elementary School

Based on the 2019/20 enrollment, there are 292 excess seats at the elementary school level. MSD has begun the process of moving 5th grade students into middle schools. Completion of this process will result in approximately 768 additional excess seats, for a total of 1,060 excess seats.

As noted in section 3.4, MSD's elementary programmatic capacity is 6,509 students. Therefore, MSD's elementary utilization factor would be 83.7% (5,449/6,509), within the "adequate space" range of 80% to 95% utilized.

Given the projected elementary school enrollment is expected to remain relatively flat, and the high deferred capital improvement expense MSD faces, **MGT recommends the closure of the lowest scoring facility, Hallsville Elementary.** With the closure of Hallsville Elementary, the district utilization factor would be 89.4% (5,449/6,204), still within the "adequate space" range of 80% to 95%.

Middle School

Based on the 2019/20 enrollment, there are 630 excess seats at the middle school level. After the addition of the approximate 768 5th grade students there will be 138 insufficient seats, resulting in the middle school utilization factor of 103.7% (3,887/3,749). This is in the "approaching inadequate space" range of 95% to 110%.

The projected middle school enrollment is estimated to decline by approximately 463 students over the next ten years, resulting in an estimated utilization factor of 91.3% (3,424/3,749). Given this is in the "adequate space" range of 80% to 95%, **MGT recommends no change to the number of middle schools.**

High School

Based on the 2019/20 enrollment, there are 1,595 excess seats at the high school level, resulting in the high school utilization factor of 72.2% (3,882/5,377). This is in the "approaching inefficient use of space" range of 70% to 85%.

The projected high school enrollment is estimated to decline by approximately 955 students over the next

ten years, resulting in an estimated utilization factor of 54.4% (2,927/5,377). Given the number of current excess seats and the projected increase of excess seats, **MGT recommends reducing the high school facility inventory by combining Central and West high schools at the West campus.**

Reducing the inventory for high schools unfortunately is not as simple as choosing the lowest scoring high school. There are multiple complicating factors, such as school capacity, school location, athletic facilities, historical significance, and more.

West high school has the lowest combined score of 74, followed closely by Central High School with a combined score of 76. Both West and Central have a suitability score of 73. West has a higher building condition score of 75, whereas Central scored 72, however Central scored higher in technology readiness with a 90, compared to West's score of 76.

Central is larger and older than West and is situated in a more urban area. Due to the age and location of Central, it lacks the room for some modern athletic facilities. Another consideration is the cost of capital needs for each school. Because Central is larger and scored lower on building condition, the cost estimation to bring it to a combined score of 85 is almost double the cost estimation for West.

2. Build new facilities to address condition and 21st century educational suitability of schools as well as continue to reduce capacity.

MSD should develop a long-range strategy to build new and renovate existing facilities to reduce deferred capital needs and improve learning environments to meet 21st century educational standards prioritizing the lowest scoring schools first.

MSD should consider updating their facilities by remodeling existing schools with the lowest capital improvement needs and building new 21st century schools to replace existing schools with the most capital improvement needs. Updated facilities reduce operation and utility cost as well as providing suitable educational space for modern education methodologies.

Selecting based upon the combined scores, Gossler Park (64), Smyth Road (68), and Wilson (71) would be the best candidates to replace with new construction either at their current location or acquired site.

3. Relocate Central office from West High School

The Central Office location on the third floor of the West campus creates several accessibility issues for staff and visitors. While there is elevator access to the office, it is only accessed through the Student section of the building creating not only an inconvenience to access but security issue at the school. Additionally, with the recommendation to merge Central and West high schools on the West campus, **MGT recommends relocating central office to create more space for the merger.**

Some options for the new location of Central Office:

- Empty Building at Central high school or Hallsville elementary school
- New construction at the Central high school, Hallsville elementary school, or other city/district owned site
- Vacant office or converted retail space available for lease/sale

4. Centralized early childhood education facility

MSD should consider establishing a stand-alone early childhood education facility. Having a centrally

located early childhood education facility will allow MSD to concentrate resources in one location and design the facility specifically for early childhood education.

5. Re-imagine what 21st century High School could look like in MSD.

As illustrated in this report, MSD high school enrollment has declined at a much higher rate than elementary and middle school enrollment indicating that high school students are choosing to leave the district. To retain and possibly recruit students from nearby communities, MSD should consider developing educational programs designed at capturing those high school students that are not completing their education with MSD. For example, remote and/or hybrid instruction, Performing arts, Visual Arts, Engineering, Cooperative on the job training opportunities, etc.

Once completed, MSD will have multiple educational opportunities to engage students in the learning style that is most appropriate for them, thus improving the high school cohort survival percentage, but more importantly, helping more students reach their potential.

6. Conduct a boundary review

As noted earlier, while some schools have excess seats, other schools are over-enrolled. Elementary school utilization factors range from a low of 76.8% to a high of 143%. Middle school utilization factors range from a low of 69% to a high of 93.9%. High school utilization factors range from a low of 53.9% to a high of 99.5%

A boundary review will re-design attendance boundaries to distribute enrollment more equally, so school's utilization is more uniform.

APPENDIX A – BUILDING INVENTORY

CENTRAL HIGH SCHOOL

535 Beech Street
Manchester NH, 03104



Grades: 9-12

Building Area: 270,062 GSF

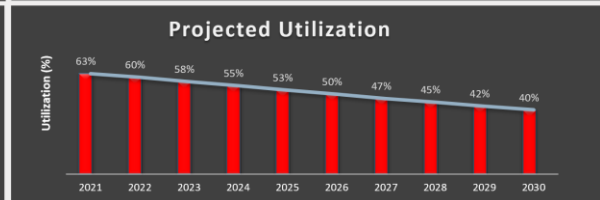
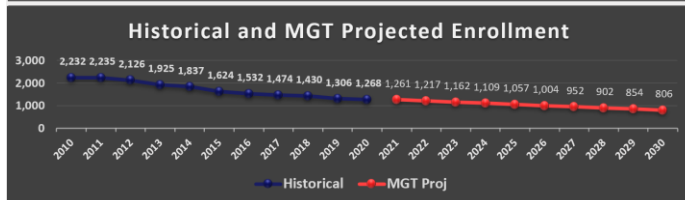
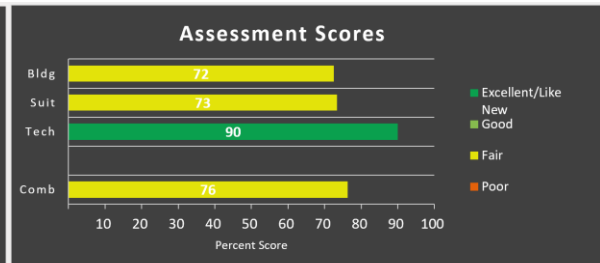
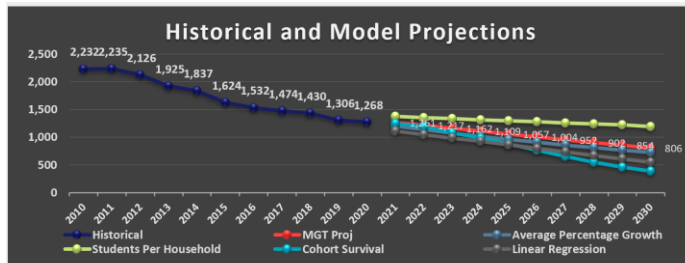
Site Area: 5.3 acres

Construction dates: 1895, 1925, 1959, 1967

Programmatic Capacity: 2,013

Classroom Count: 98

Cafeteria size: 7,706 GSF



MEMORIAL HIGH SCHOOL

1 Crusader Way
Manchester NH, 03103



Grades: 9-12

Building Area: 182,528 GSF

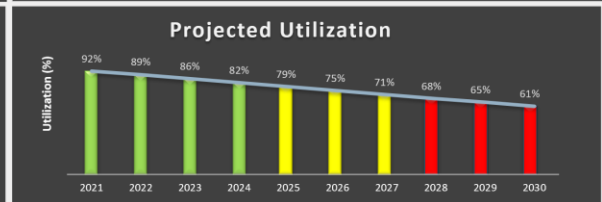
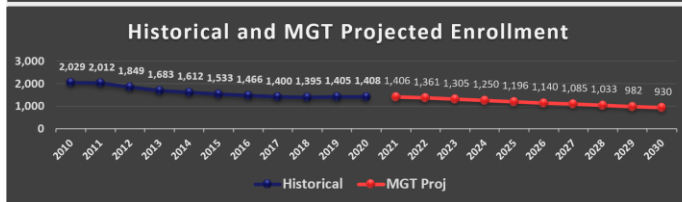
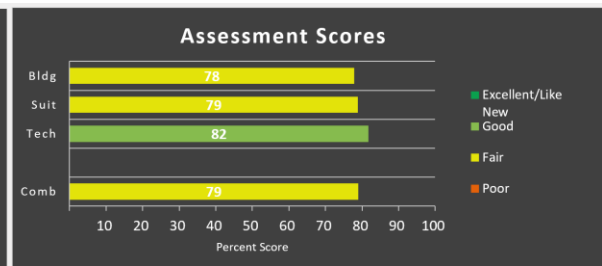
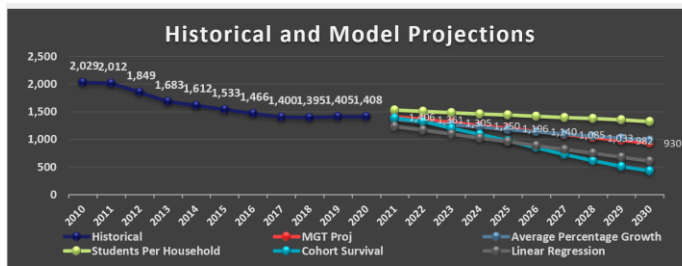
Site Area: 47 acres (shared campus with Jewett Elementary and Southside Middle)

Construction dates: 1960, 1965, 1987, 1989, 1998

Programmatic Capacity: 1,522

Classroom Count: 62

Cafeteria size: 9,715 GSF



MST HIGH SCHOOL

100 Gerald Connors Circle
Manchester NH, 03103



Grades: 9-12

Building Area: 110,000 GSF

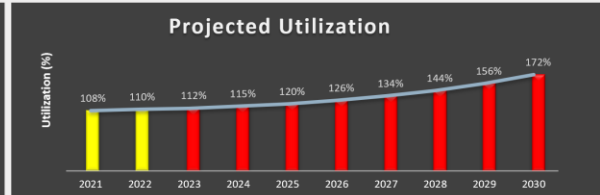
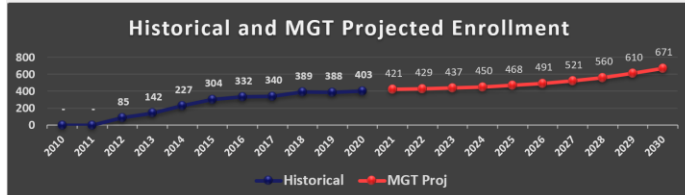
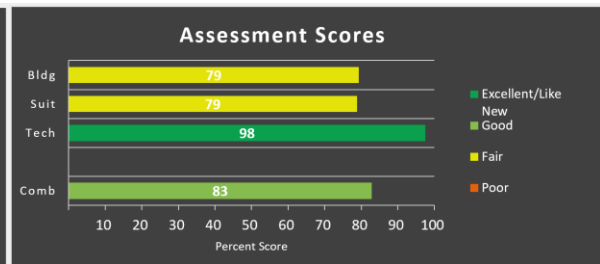
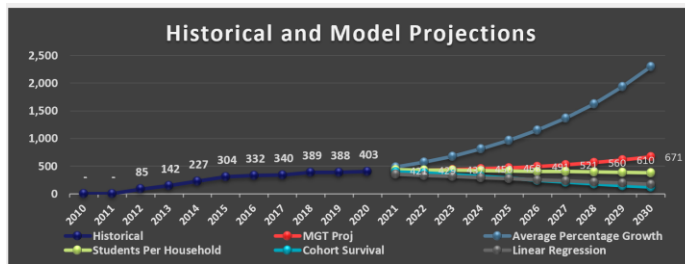
Site Area: 11 acres

Construction dates: 1982

Programmatic Capacity: 390

Classroom Count: 37

Cafeteria size: N/A



WEST HIGH SCHOOL

9 Notre Dame Ave
Manchester NH, 03102



Grades: 9-12

Building Area: 165,346 GSF

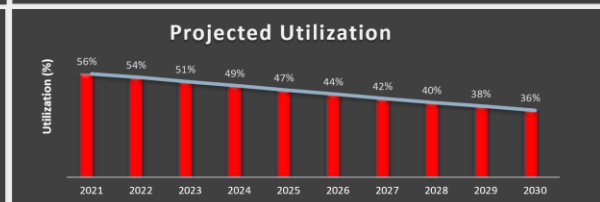
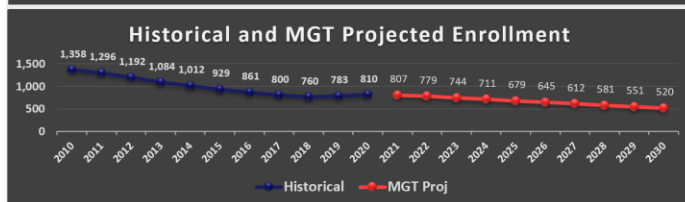
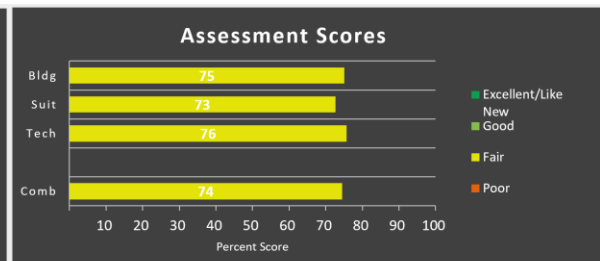
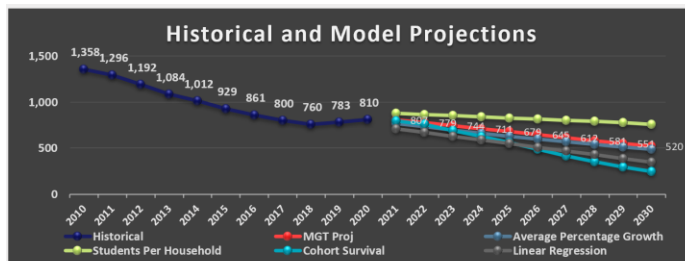
Site Area: 9.8 acres + Sports Campus Across Street

Construction dates: 1922, 1958, 1967

Programmatic Capacity: 1,452

Classroom Count: 78

Cafeteria size: 10,148 GSF



HILLSIDE MIDDLE SCHOOL

112 Reservoir Avenue
Manchester NH, 03104



Grades: 6-8

Building Area: 116,648 GSF

Site Area: 137 acres (including Derryfield Park)

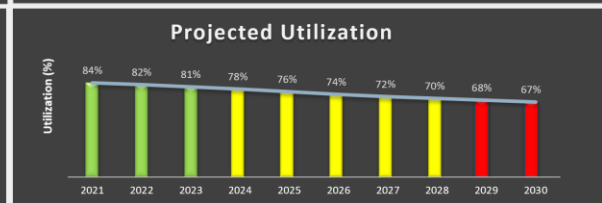
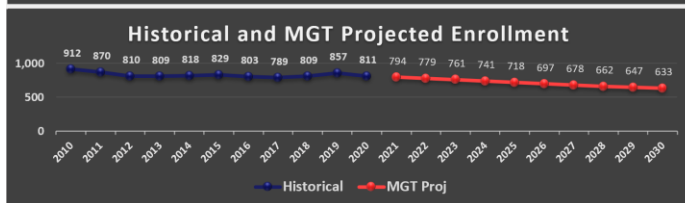
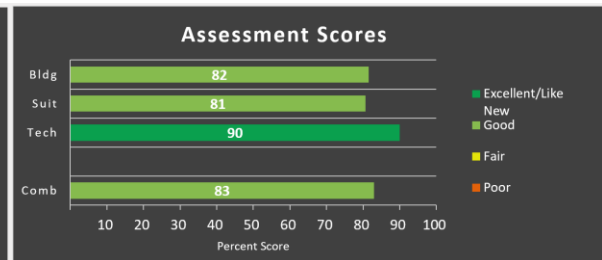
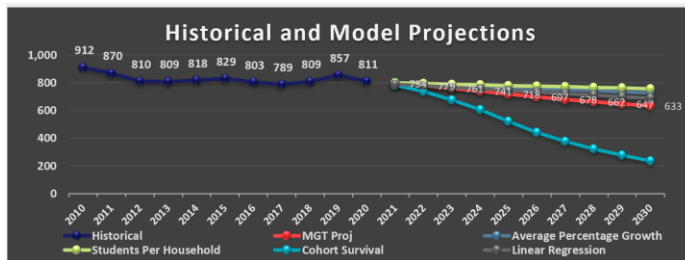
Construction dates: 1967

Programmatic Capacity: 945

Classroom Count: 57*

Cafeteria size: 3,672 GSF

*Does not include portable classrooms



MCLAUGHLIN MIDDLE SCHOOL

201 Jack Lovering Drive
Manchester NH, 03109



Grades: 6-8

Building Area: 105,000 GSF

Site Area: 41.3 acres (shared campus with Green Acres Elementary)

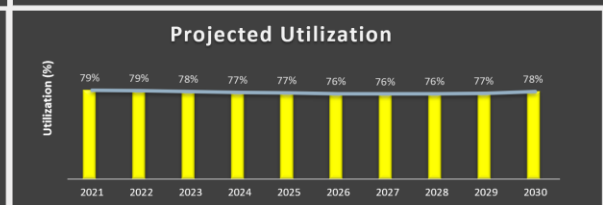
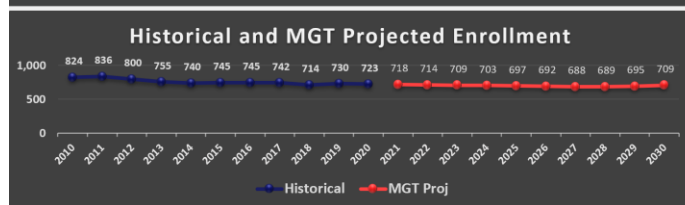
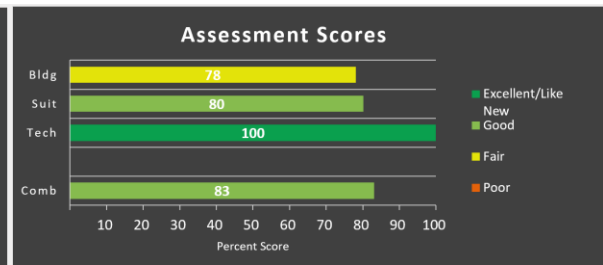
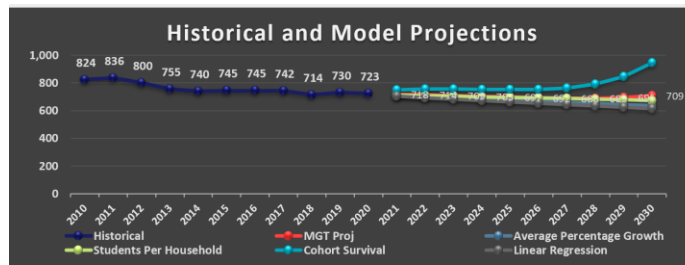
Construction dates: 1998

Programmatic Capacity: 907

Classroom Count: 44*

Cafeteria size: 3,480 GSF

*Does not include portable classrooms



PARKSIDE MIDDLE SCHOOL

75 Parkside Avenue
Manchester NH, 03102



Grades: 5-8

Building Area: 118,550 GSF

Site Area: 23 acres (shared campus with Gossler Park Elementary)

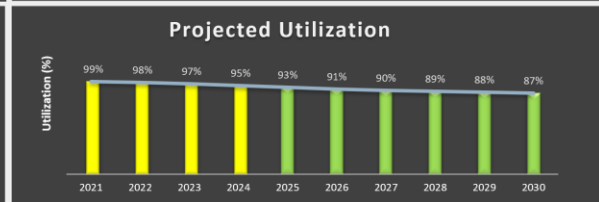
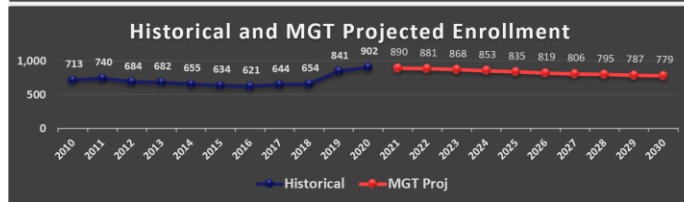
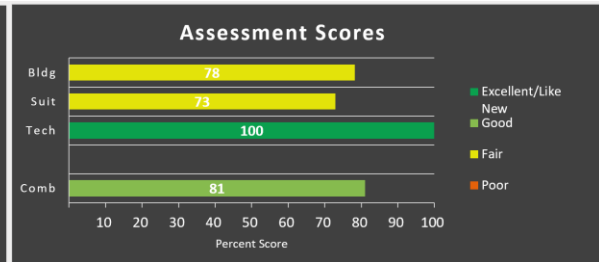
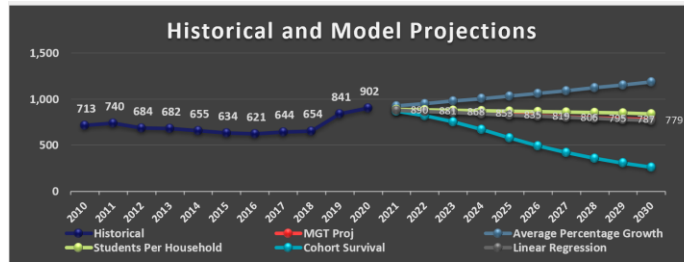
Construction dates: 1967, 1999

Programmatic Capacity: 896

Classroom Count: 61*

Cafeteria size: 3,672 GSF

*Does not include portable classrooms



SOUTHSIDE MIDDLE SCHOOL

300 S. Jewett Street
Manchester NH, 03103



Grades: 6-8

Building Area: 116,648 GSF

Site Area: 47 acres (shared campus with Jewett Elementary and Memorial High)

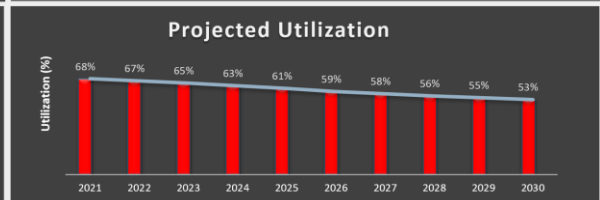
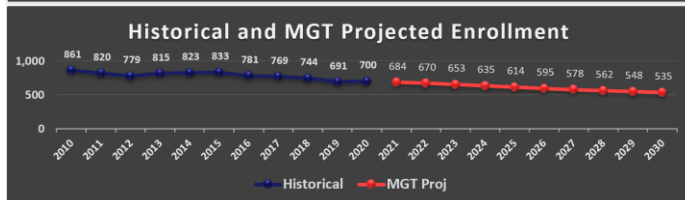
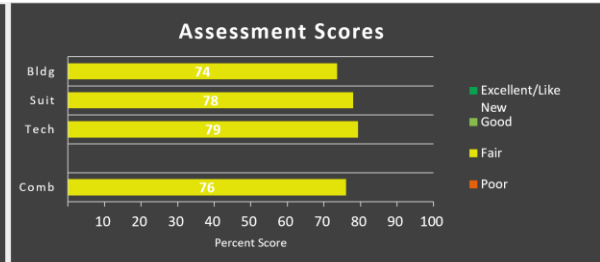
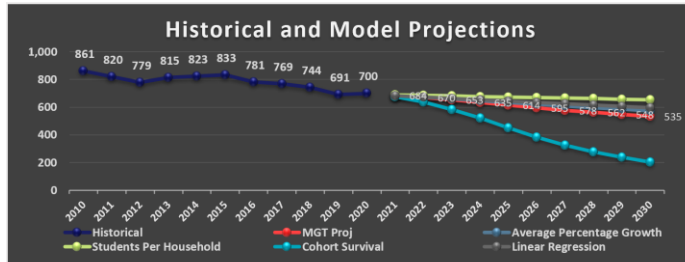
Construction dates: 1967

Programmatic Capacity: 1,001

Classroom Count: 54*

Cafeteria size: 3,672 GSF

*Does not include portable classrooms



BAKERSVILLE ELEMENTARY SCHOOL

20 Elm Street
Manchester NH, 03101



Grades: PK-5

Building Area: 44,968 GSF

Site Area: .7 acres

Construction dates: 1895, 1916, 1990

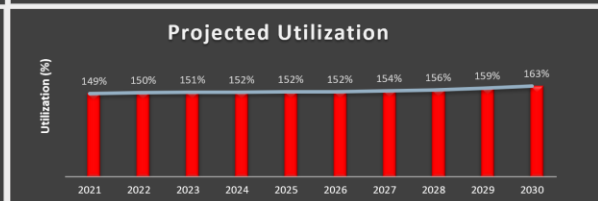
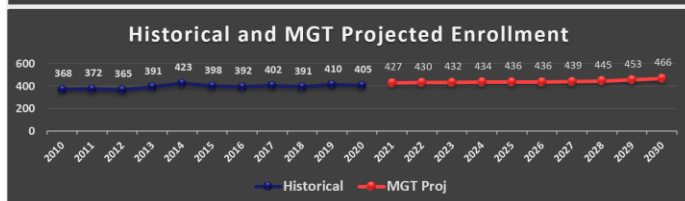
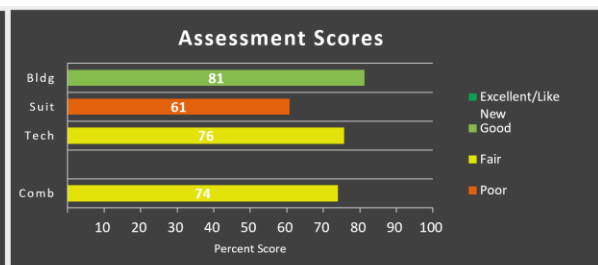
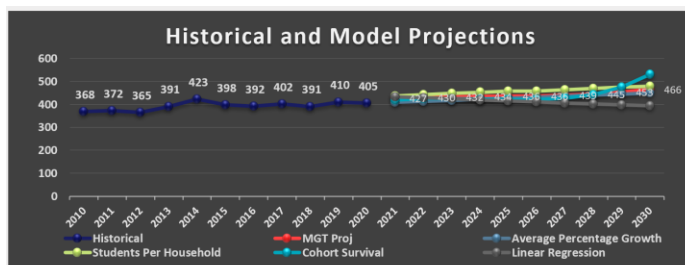
Programmatic Capacity: 286

Classroom Count: 20*

Cafeteria size: 4,600 GSF**

*Does not include portable classrooms

**Cafeteria and gym are combined



BEECH STREET ELEMENTARY SCHOOL

333 Beech Street
Manchester NH, 03103



Grades: K-5

Building Area: 69,896 GSF

Site Area: 1.5 acres

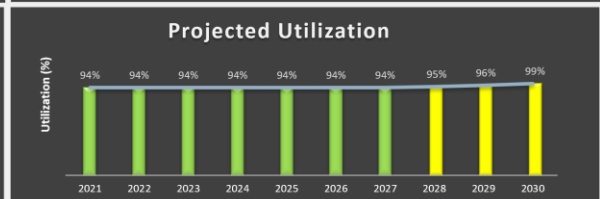
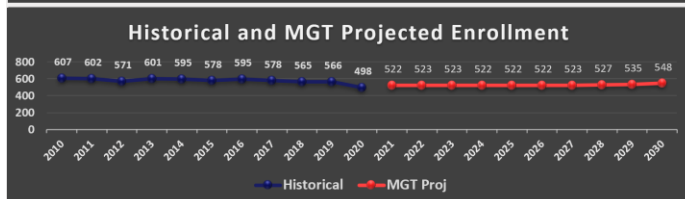
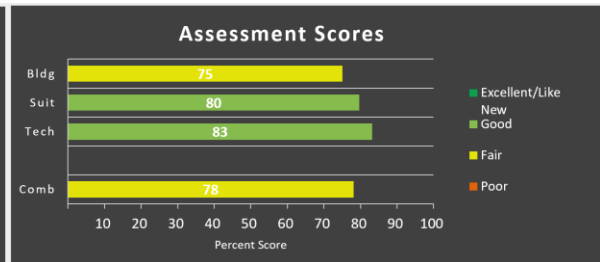
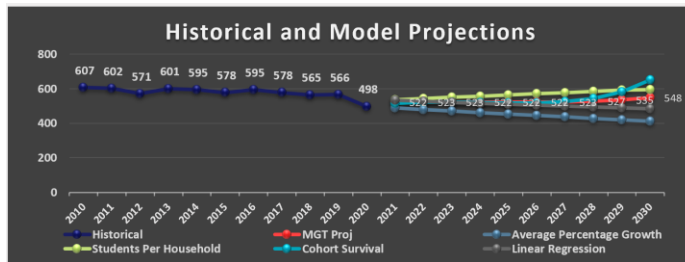
Construction dates: 1973

Programmatic Capacity: 555

Classroom Count: 29*

Cafeteria size: 3,697 GSF

*Does not include portable classrooms



GOSSLER PARK ELEMENTARY SCHOOL

145 Parkside Avenue
Manchester NH, 03102



Grades: K-4

Building Area: 40,526 GSF

Site Area: 23 acres (shared campus with Parkside Middle)

Construction dates: 1956, 1961, 1990

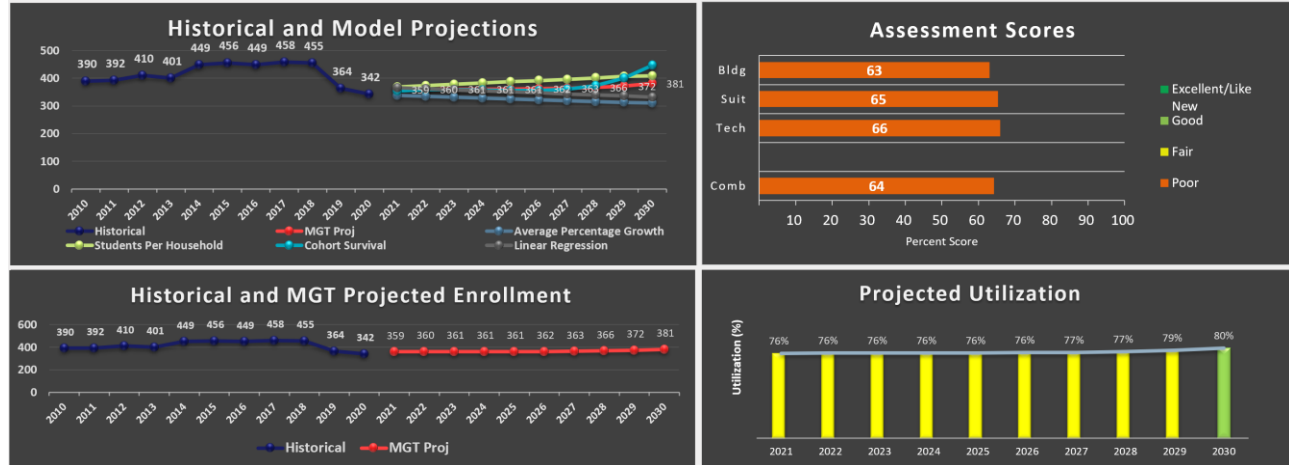
Programmatic Capacity: 474

Classroom Count: 23*

Cafeteria size: 3,150 GSF**

*Does not include portable classrooms

**Cafeteria and gym are combined



GREEN ACRES ELEMENTARY SCHOOL

100 Jack Lovering Drive
Manchester NH, 03109



Grades: PK-5

Building Area: 53,734 GSF

Site Area: 41.3 acres (shared campus with McLaughlin Middle)

Construction dates: 1963, 1971

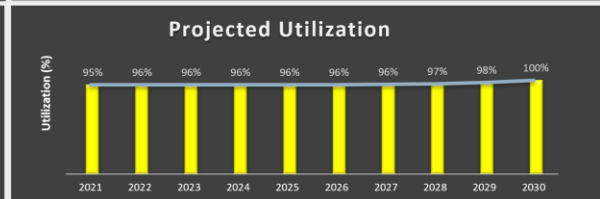
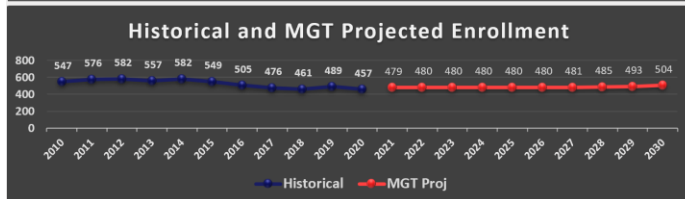
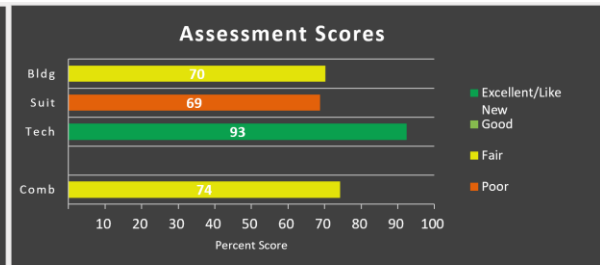
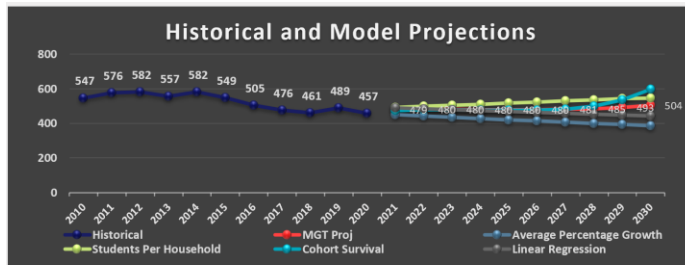
Programmatic Capacity: 502

Classroom Count: 26*

Cafeteria size: 5,017 GSF**

*Does not include portable classrooms

**Cafeteria and gym are combined



HALLSVILLE ELEMENTARY SCHOOL

275 Jewett Street
Manchester NH, 03103



Grades: K-5

Building Area: 38,379 GSF

Site Area: 1.01 acres

Construction dates: 1891, 1908, 1922, 1926

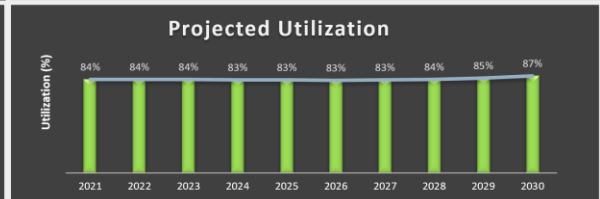
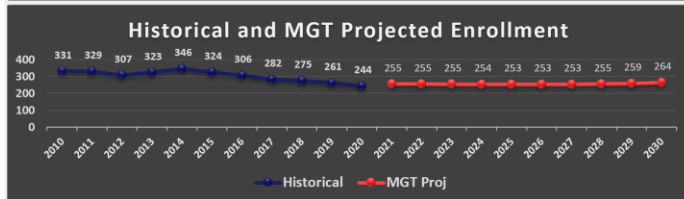
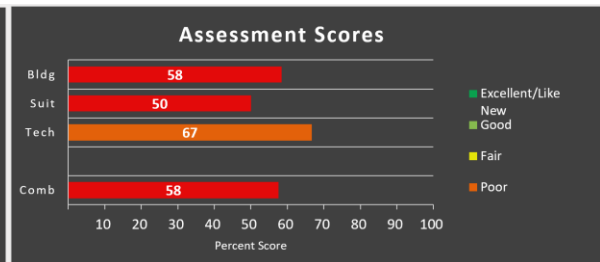
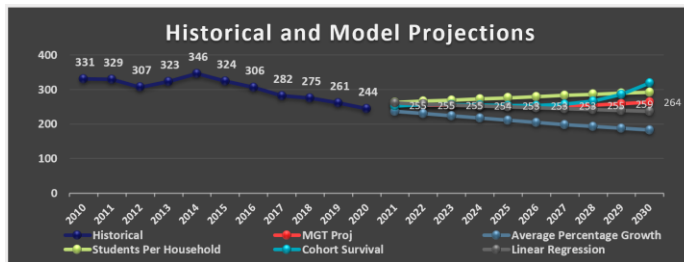
Programmatic Capacity: 305

Classroom Count: 13*

Cafeteria size: 4,640 GSF**

*Does not include portable classrooms

**Cafeteria and gym are combined



HIGHLAND-GOFFE'S FALLS ELEMENTARY SCHOOL

2021 Goffe's Falls Road
Manchester NH, 03103



Grades: PK-5

Building Area: 59,927 GSF

Site Area: 15.9 acres

Construction dates: 1970

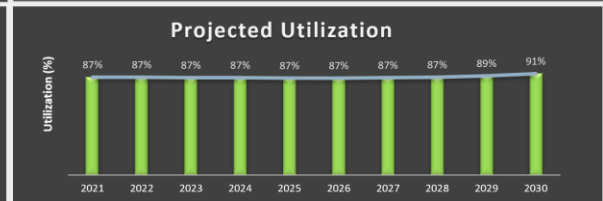
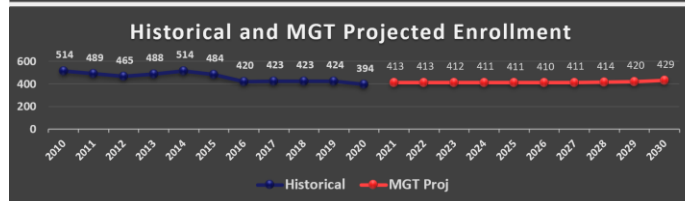
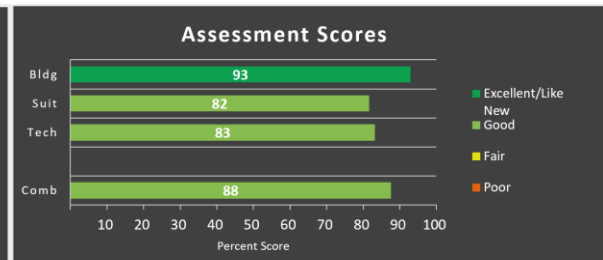
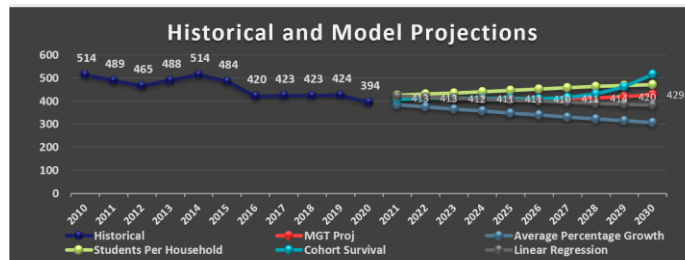
Programmatic Capacity: 474

Classroom Count: 29*

Cafeteria size: 3,987 GSF**

*Does not include portable classrooms

**Cafeteria and gym are combined



JEWETT ELEMENTARY SCHOOL

130 S. Jewett Street
Manchester NH, 03103



Grades: PK-5

Building Area: 38,436 GSF

Site Area: 47 acres (shared campus with Southside Middle and Memorial High)

Construction dates: 1955, 1963, 1990

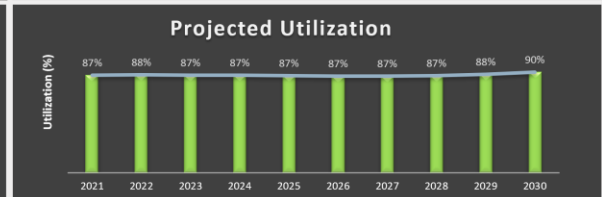
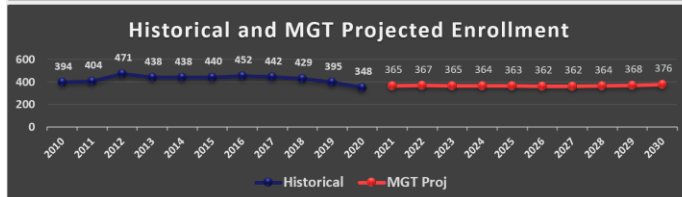
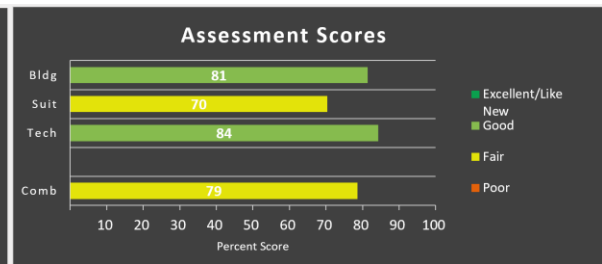
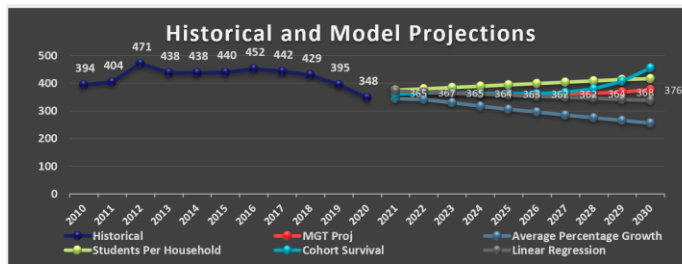
Programmatic Capacity: 418

Classroom Count: 23*

Cafeteria size: 3,150 GSF**

*Does not include portable classrooms

**Cafeteria and gym are combined



MCDONOUGH ELEMENTARY SCHOOL

550 Lowell Street
Manchester NH, 03104



Grades: K-5

Building Area: 64,476 GSF

Site Area: 3.44 acres

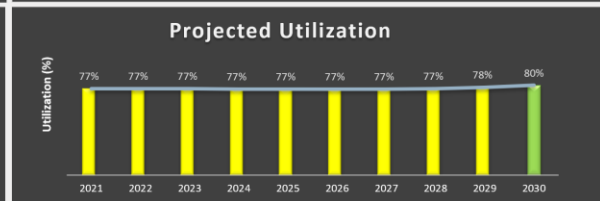
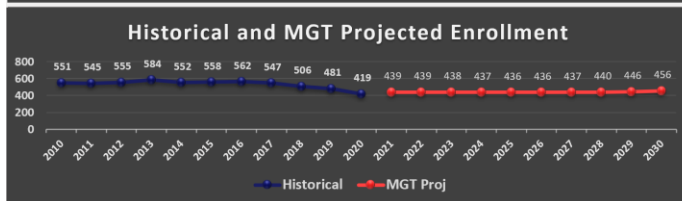
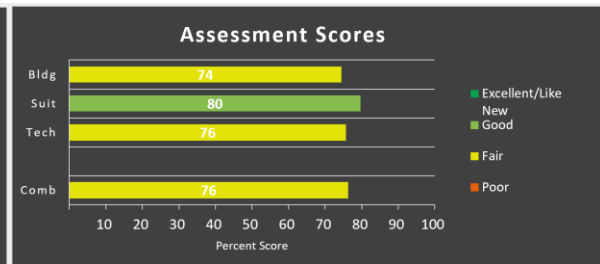
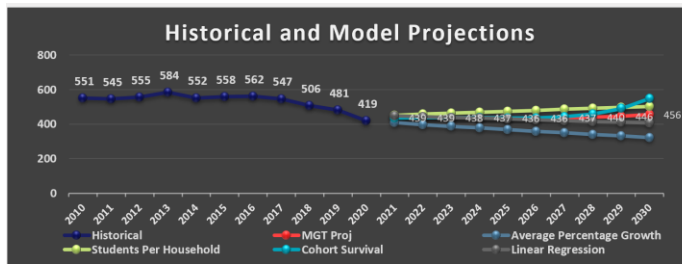
Construction dates: 1964

Programmatic Capacity: 568

Classroom Count: 34*

Cafeteria size: 3,950 GSF

*Does not include portable classrooms



NORTHWEST ELEMENTARY SCHOOL

300 Youville Street
Manchester NH, 03102



Grades: K-4

Building Area: 51,475 GSF

Site Area: 4.56 acres

Construction dates: 1987

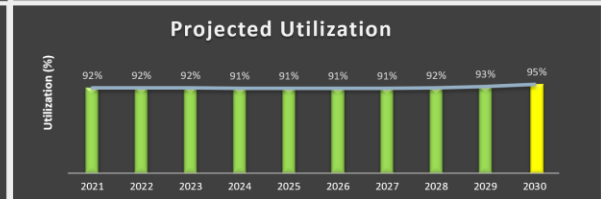
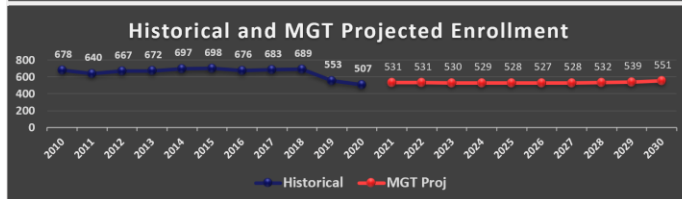
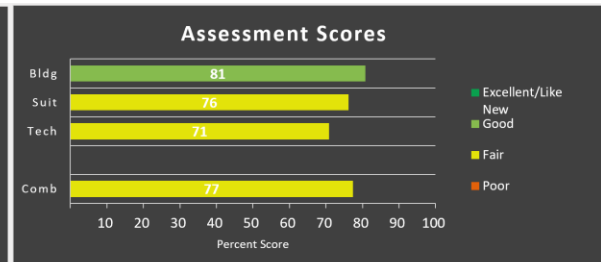
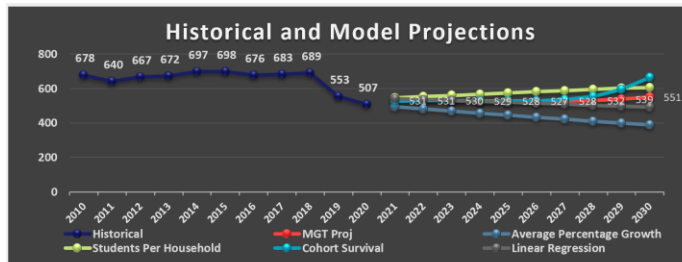
Programmatic Capacity: 578

Classroom Count: 29*

Cafeteria size: 5,000 GSF**

*Does not include portable classrooms

**Cafeteria and gym are combined



PARKER-VARNEY ELEMENTARY SCHOOL

223 James A. Pollock Drive
Manchester NH, 03102



Grades: PK-4

Building Area: 59,927 GSF

Site Area: 13.5 acres

Construction dates: 1970

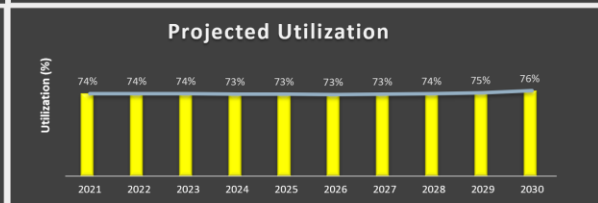
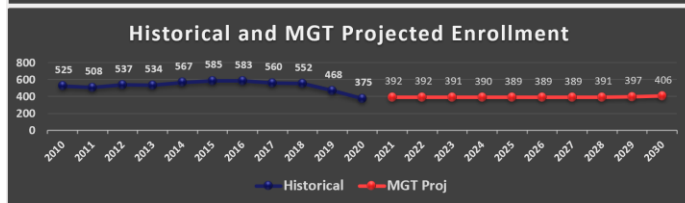
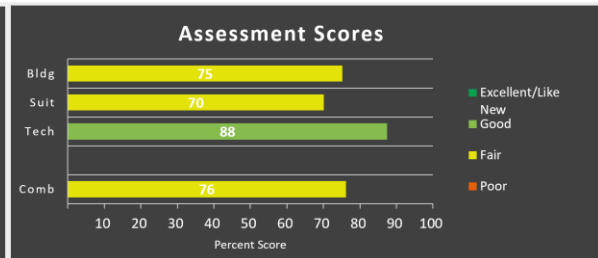
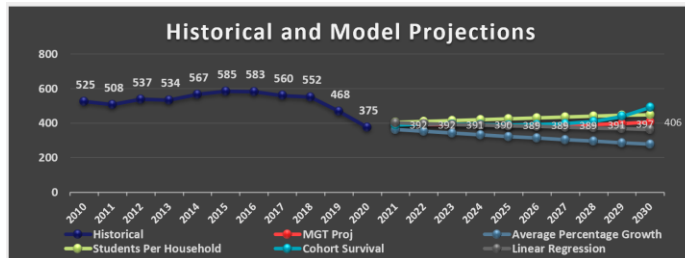
Programmatic Capacity: 532

Classroom Count: 28*

Cafeteria size: 3,987 GSF**

*Does not include portable classrooms

**Cafeteria and gym are combined



SMYTH ROAD ELEMENTARY SCHOOL

245 Bruce Road
Manchester NH, 03104



Grades: PK-5

Building Area: 44,647 GSF

Site Area: 11.5 acres

Construction dates: 1956, 1961, 1990

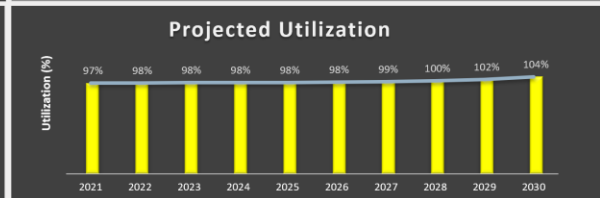
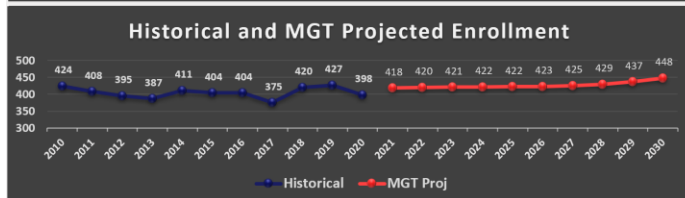
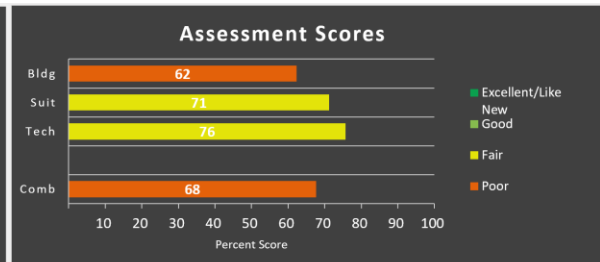
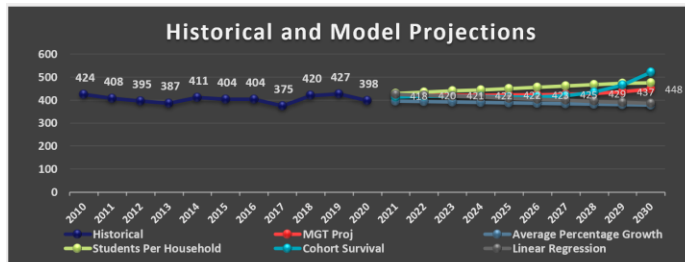
Programmatic Capacity: 430

Classroom Count: 25*

Cafeteria size: 3,150 GSF**

*Does not include portable classrooms

**Cafeteria and gym are combined



WEBSTER ELEMENTARY SCHOOL

2519 Elm Street
Manchester NH, 03104



Grades: K-5

Building Area: 56,558 GSF

Site Area: 2.77 acres

Construction dates: 1940, 1971

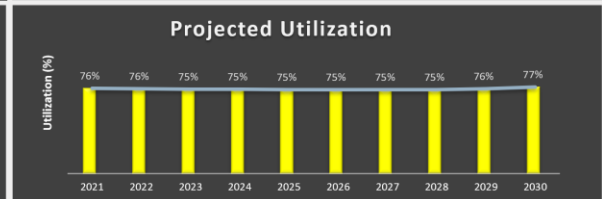
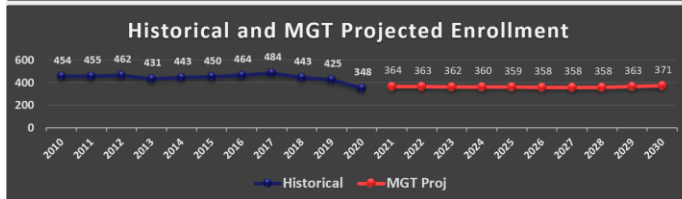
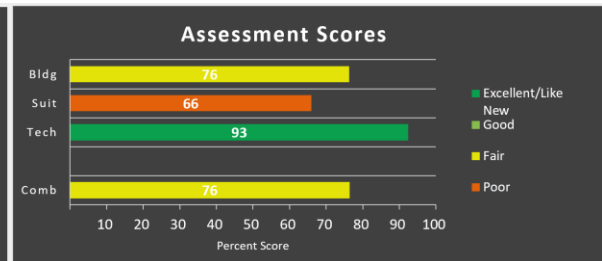
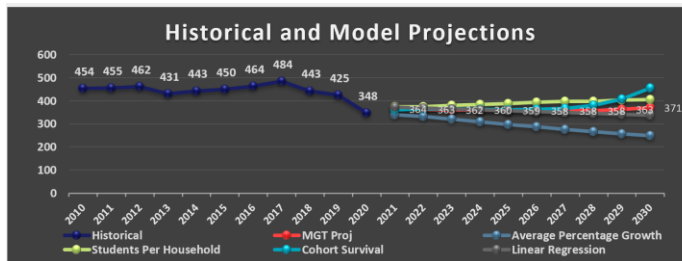
Programmatic Capacity: 479

Classroom Count: 29*

Cafeteria size: 3,694 GSF**

*Does not include portable classrooms

**Cafeteria and gym are combined



WESTON ELEMENTARY SCHOOL

1066 Hanover Street
Manchester NH, 03104



Grades: PK-5

Building Area: 61,827 GSF

Site Area: 2.77 acres

Construction dates: 1922, 1958, 1975

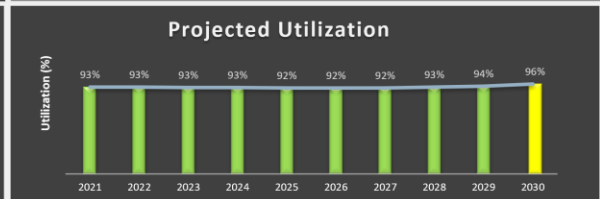
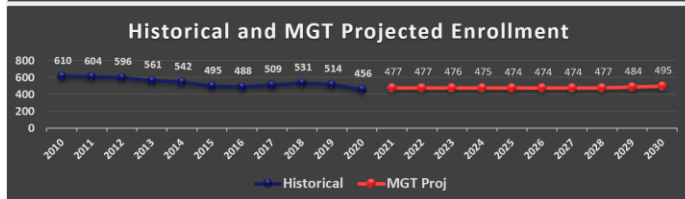
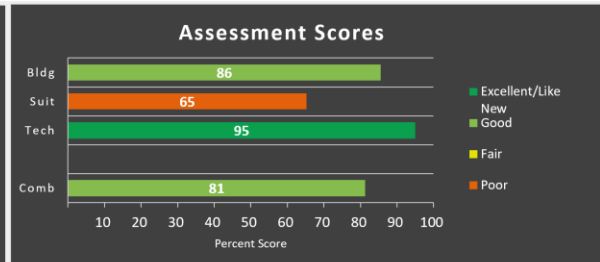
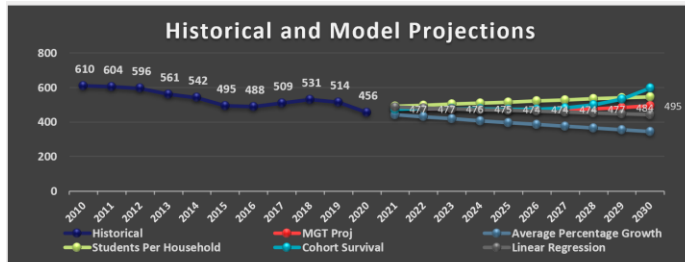
Programmatic Capacity: 513

Classroom Count: 26*

Cafeteria size: 3,890 GSF**

*Does not include portable classrooms

**Cafeteria and gym are combined



HENRY WILSON ELEMENTARY SCHOOL

401 Wilson Street
Manchester NH, 03103



Grades: K-5

Building Area: 50,230 GSF

Site Area: .92 acres

Construction dates: 1896, 1917, 1996

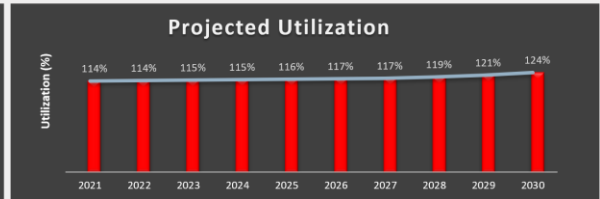
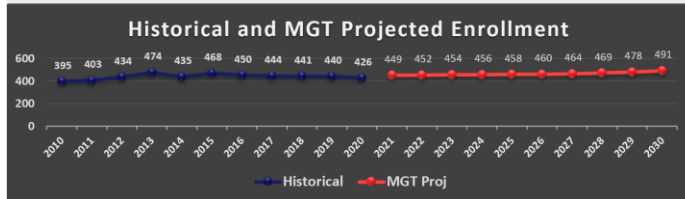
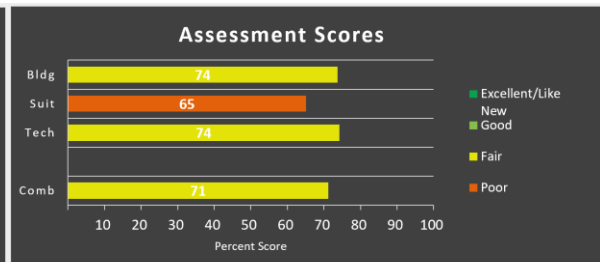
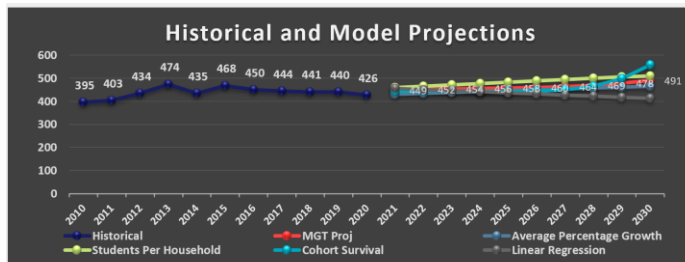
Programmatic Capacity: 395

Classroom Count: 17*

Cafeteria size: 5,330 GSF**

*Does not include portable classrooms

**Cafeteria and gym are combined



APPENDIX B – EDUCATIONAL SUITABILITY & TECHNOLOGY READINESS GUIDE



EDUCATIONAL SUITABILITY & TECHNOLOGY READINESS REFERENCE GUIDE

TABLE OF CONTENTS



ART CLASSROOMS.....	2
CAREER & TECHNICAL EDUCATION	4
COMPUTER LABS.....	5
EARLY CHILDHOOD EDUCATION	6
GENERAL CLASSROOMS	7
INSTRUCTIONAL RESOURCE ROOMS	8
KINDERGARTEN.....	9
LEARNING ENVIRONMENT	10
MEDIA CENTER.....	11
MUSIC.....	12
NON-INSTRUCTIONAL SPACES.....	13
NON-INSTRUCTIONAL SPACES (CONTINUED).....	14
OUTSIDE SPACES	15
PERFORMING ARTS	16
PHYSICAL EDUCATION	17
SAFETY & SECURITY.....	18
SELF-CONTAINED SPECIAL EDUCATION.....	19
SCIENCE	20
TECHNOLOGY READINESS.....	21

OVERVIEW AND BACKGROUND

This Guide defines the standards that will be used to assess the educational adequacy of schools for Manchester School District (MSD). The standards were developed in collaboration with educators from MSD and based on the New Hampshire Department of Education standards, the district's adopted Design Guidelines, and Educational Specifications. An assessment of educational adequacy measures how well the facility supports the instructional program in the school. This is not an assessment of the physical condition of the school – the roofing, the windows, etc., which rates the various building systems. This is an assessment of the learning spaces compared to the program needs at that school.

For each type of instructional space, the assessment includes four components:

- **Learning environment** - The room should provide an inviting and stimulating environment for learning, including lighting, HVAC, acoustics, etc.
- **Size** – The room should meet the size standard set by the district/state.
- **Location** – The room should be appropriately located based on the program needs: quiet, noisy, near the entrance, etc.
- **Storage and Fixed Equipment** – The room should have appropriate fixed equipment and storage for teacher/ student materials.


In addition to the instructional spaces, the adequacy assessment also includes the exterior of the building, e.g., traffic patterns, parking and access to the school, safety issues (lighting, signage, secure entrances), play and athletic areas, and infrastructure that supports technology readiness.

This Guide will be used for training of assessors to ensure inter-rater reliability and during the assessment of each school in the district. The Guide and the data gathered during the assessment will be made available to the public and will be used by the district to prioritize facility needs for future planning.

ACKNOWLEDGEMENTS

Special thanks to the following MSD staff who participated in the development of this Guide.

Dr. John Goldhardt	Superintendent
Amy Allen	Assistant Superintendent
Jenn Gillis	Assistant Superintendent
Mary Steady	Chief Equity Officer
Steve Cross	Chief Information Officer
Karen DeFrancis	Chief Financial Officer

	Educational Suitability & Technology Readiness Reference Guide MSD	2
---	---	---

ART CLASSROOMS

Required space at all levels. Art rooms should be located in permanent buildings. If there is no space, score all components *Unsatisfactory*. For educational suitability purposes, if the art room is located in a portable, all four components should be scored *Unsatisfactory*.

System	Component	Description	What to Look For
Art	Environment	The room should provide an inviting and stimulating environment for learning.	Spatial Configuration (immovable): Does it support the instructional program? Lighting: Appropriate natural light/lighting levels? Acoustics: Are there impediments to hearing the teacher? Is there noise transfer between classrooms? HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are the room finishes/equipment worn and/or dated?
	Size	The room should meet the square footage standards. ES: 1,110 SF MS/HS: 1200 SF	EXCEL: 90-100% of the room(s) meet standards GOOD: 80-89% of the room(s) meet standards FAIR: 65-79% of the room(s) meet standards POOR: 50-64% of the room(s) meet standards UNSAT: <50% of the room(s) meet standards or is a portable
	Location	The room should be appropriately located for the program.	Rooms should be located on an exterior wall with windows for natural light.
	Storage/Fixed Equip	The room should have adequate storage space and fixed equipment appropriate to the program.	Storage: Room(s) have adequate permanent casework, appropriate materials and project storage Fixed Equipment: ES/MS: Should have sink. HS: Should have at least 2 sinks w/clay traps, kiln w/appropriate ventilation, display space, hard surfaced flooring, easily cleanable surfaces, and technology equipment. Room(s) should have the capacity to be darkened to display projected imagery.

Examples of art classrooms:



	Educational Suitability & Technology Readiness Reference Guide MSD	3
---	---	---

CAREER & TECHNICAL EDUCATION

Scores are based on the programs available in each building. Space is provided for various simulations of job-related experiences and laboratory workstations. For educational suitability purposes, if some CTE rooms are located in a portable building, the comment for all four components should include this information and scores lowered based on the percent that are located in portable buildings. If all CTE rooms are in portables, all components are scored *Unsatisfactory*.

System	Component	Description	What to Look For
Career Tech Ed	Environment	The room should provide an inviting/stimulating environment for learning.	Spatial Configuration (immovable): Does it support the instructional program? Lighting: Appropriate natural light/lighting levels? Acoustics: Are there impediments to hearing the teacher? Is there noise transfer between classrooms? HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are the room finishes/equipment worn and/or dated?
	Size	The room should meet the square footage appropriate for the program. There is room for a lecture area and for movement of students.	EXCEL: 90-100% of the room(s) meet standards GOOD: 80-89% of the room(s) meet standards FAIR: 65-79% of the room(s) meet standards POOR: 50-64% of the room(s) meet standards UNSAT: <50% of the room(s) meet standards
	Location	The room should be appropriately located for the program.	The classrooms(s) should be shielded from noise-producing activities and functions and there should be appropriate material delivery areas.
	Storage/Fixed Equip	The room should have adequate storage space and fixed equipment appropriate to the program.	Storage: There should be storage for student projects and supplies and secured storage areas for volatile, flammable, and corrosive chemicals and cleaning agents, if needed for the program. In addition, there should be proper storage and removal access for hazardous waste materials is provided in each laboratory using such materials. Fixed Equipment: As appropriate to the program, including any necessary safety equipment.

Examples of career and technical education classrooms:



	Educational Suitability & Technology Readiness Reference Guide MSD	4
--	---	---

COMPUTER LABS

Computer labs should be scored if they exist. If a school has no computer lab, it should be scored "N/A". For educational suitability purposes, if the computer lab is located in a portable, all four components should be scored *Unsatisfactory*.

System	Component	Description	What to Look For
Computer Labs	Environment	The room should provide an inviting and stimulating environment for learning.	Spatial Configuration (immovable): Does it support the instructional program? Lighting: Lighting should minimize screen glare and eye strain. Acoustics: Are there impediments to hearing the teacher? Is there noise transfer between classrooms? HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are the room finishes/equipment worn and/or dated?
	Size	The room should meet the square footage standards and should accommodate movement of students around learning stations. 1110 SF (ES) 1200 SF (MS) 1200 SF (HS)	EXCEL: 90-100% of the room(s) meet standards GOOD: 80-89% of the room(s) meet standards FAIR: 65-79% of the room(s) meet standards POOR: 50-64% of the room(s) meet standards UNSAT: <50% of the room(s) meet standards
	Location	The room should be appropriately located for the program.	A room that is close to classroom areas and shielded from noise-producing activities or functions.
	Storage/Fixed Equip	The room should have adequate storage space and fixed equipment appropriate to the program. Computer labs should have both hard connections and wireless availability.	Storage: Is there adequate permanent casework and enough storage for teaching materials and records? Fixed Equipment: There should be sufficient outlets, power sources, and network links for the amount of equipment provided. Equipment should be properly secured and appropriate for the program. Furniture should /should not be fixed/permanent.

Examples of computer labs:



	Educational Suitability & Technology Readiness Reference Guide MSD	5
--	---	---

EARLY CHILDHOOD EDUCATION

For suitability purposes, if some early childhood classrooms are located in a portable building, the comment for all four components should include this information and the scores should be lowered based on the percent of classrooms in that category that are located in portable buildings. If all ECE classrooms are in portables, all components should be scored *Unsatisfactory*.

System	Component	Description	What to Look For
ECE	Environment	The room should provide an inviting and stimulating environment for learning.	Spatial Configuration (immovable): Does it support the instructional program? Lighting: Appropriate natural light/lighting levels? Acoustics: Are there impediments to hearing the teacher? Is there noise transfer between classrooms? HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are the room finishes/equipment worn and/or dated?
	Size	The room should meet the square footage standards (including restrooms, storage, kitchenette, and teacher preparation) 1110 SF	EXCEL: 90-100% of the room(s) meet standards GOOD: 80-89% of the room(s) meet standards FAIR: 65-79% of the room(s) meet standards POOR: 50-64% of the room(s) meet standards UNSAT: <50% of the room(s) meet standards
	Location	The room should be appropriately located for the program.	A room that is appropriately located and shielded from noise-producing activities or functions and has access to a fenced outdoor play area. (Play area is scored under <i>Outside Spaces</i> .)
	Storage/Fixed Equip	The room should have adequate storage space and fixed equipment appropriate to the program.	Storage: Room(s) have adequate, age-appropriate casework and storage. Fixed Equipment: There should be a restroom in the classroom. Convenient access to washer and dryer. If the room is used for special education preschool, add a changing area in the restroom. Fixtures include sink, wall of cabinets, age-appropriate fixtures, and technology equipment. Some flooring is a "wet area".

Examples of ECE classrooms:



	Educational Suitability & Technology Readiness Reference Guide MSD	6
--	---	---

GENERAL CLASSROOMS

For suitability purposes, if some general classrooms are located in a portable building, the comment for all four components should include this information and scores lowered based on the percent that are located in portable buildings. If all general classrooms are in portables, all four components are scored *Unsatisfactory*.

System	Component	Description	What to Look For
General Classrooms	Environment	The rooms should provide an inviting and stimulating environment for learning.	Spatial Configuration (immovable): Does it support the instructional program? Classrooms should have flexible spaces for group learning. Lighting: Appropriate natural light/lighting levels? Clerestory windows OK. Acoustics: Are there impediments to hearing the teacher? Is there noise transfer between classrooms? HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are the room finishes/equipment worn and/or dated?
	Size	The rooms should meet the square footage standards. All Levels: 1000 SF	EXCEL: 90-100% of the room(s) meet standards GOOD: 80-89% of the room(s) meet standards FAIR: 65-79% of the room(s) meet standards POOR: 50-64% of the room(s) meet standards UNSAT: <50% of the room(s) meet standards
	Location	The rooms should be appropriately located for the program.	A room that is appropriately located and shielded from noise-producing activities or functions.
	Storage/Fixed Equip	The rooms should have adequate storage space and fixed equipment appropriate to the program.	Storage: Permanent casework and space for teaching materials and records. Fixed Equipment: One wall of cabinets, counters at age-appropriate height, a locked cabinet. There should be technology equipment appropriate to the program.

Examples of general classrooms:



	Educational Suitability & Technology Readiness Reference Guide MSD	7
--	---	---

INSTRUCTIONAL RESOURCE ROOMS

There should be space(s) for resource specialist, speech therapist, psychologists, itinerant teachers, bilingual specialists, migrant services and other services. For educational suitability purposes, if some instructional resource rooms are located in a portable building, the comment for all four components should include this information and scores lowered based on the percent that are located in portable buildings. If all resource rooms are in portables, all components are scored *Unsatisfactory*.

System	Component	Description	What to Look For
Instructional Resource Rooms	Environment	The room should provide an inviting and stimulating environment for learning.	Spatial Configuration (immovable): Does it support the instructional program and allow for collaborative learning opportunities? Lighting: Appropriate natural light/lighting levels? Acoustics: Are there impediments to hearing the teacher? Is there noise transfer between classrooms? HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are the room finishes/equipment worn and/or dated?
	Size	The room should meet the square footage standards. 600 SF X 3 rooms Should be space for speech therapy, physical therapy, occupational therapy, and private counseling. Physical and occupational therapy can be co-located.	EXCEL: 90-100% of the room(s) meet standards GOOD: 80-89% of the room(s) meet standards FAIR: 65-79% of the room(s) meet standards POOR: 50-64% of the room(s) meet standards UNSAT: <50% of the room(s) meet standards
	Location	The room should be appropriately located for the program.	The room should be near other classrooms and shielded from noise-producing activities or functions.
	Storage/Fixed Equip	The room should have adequate storage space and fixed equipment appropriate to the program.	Storage: Room(s) have adequate permanent casework; teacher, and student storage. Fixed Equipment: Room(s) have program/technology equipment appropriate to the program.

Examples of instructional resource rooms:



Educational Suitability & Technology Readiness Reference Guide
MSD

| 8

KINDERGARTEN

If some kindergarten classrooms are located in a portable building, the comment for all four components should include this information and scores lowered based on the percent that are located in portable buildings. For educational suitability purposes, if all kindergarten classrooms are in portables, all components are scored *Unsatisfactory*.

System	Component	Description	What to Look For
Kindergarten	Environment	The room should provide an inviting and stimulating environment for learning.	Spatial Configuration (immovable): Does it support the instructional program? . Lighting: Appropriate natural light/lighting levels? Acoustics: Are there impediments to hearing the teacher? Is there noise transfer between classrooms? HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are the room finishes/equipment worn and/or dated?
	Size	The room should meet the square footage standards (including restrooms, storage, teacher preparation). 1110 SF (50sf per student)	EXCEL: 90-100% of the room(s) meet standards GOOD: 80-89% of the room(s) meet standards FAIR: 65-79% of the room(s) meet standards POOR: 50-64% of the room(s) meet standards UNSAT: <50% of the room(s) meet standards
	Location	The room should be appropriately located for the program.	The room should be appropriately located, shielded from noise-producing activities or functions, and located close to parent drop-off and bus loading areas. Kindergarten is to be located on the ground floor.
	Storage/Fixed Equip	The room should have adequate storage space and fixed equipment appropriate to the program.	Storage: Storage space for teaching materials and records; and for children's clothing and personal items. Storage, casework, and learning stations are functionally designed for use in free play and structured activities; e.g., shelves are deep and open for frequent use of manipulative materials. Fixed Equipment: There should be a wet area with sink. Room(s) have program/technology equipment appropriate to the program. A restroom should be located within kindergarten classrooms or within 50' of classroom. Counters, furniture, etc. should be appropriate heights for kindergarten-aged students.

Examples of kindergarten classrooms:



Educational Suitability & Technology Readiness Reference Guide
MSD

| 9

LEARNING ENVIRONMENT

System	Component	Description	What to Look For
Learning Environment	Learning Style Variety	The school should have flexible learning spaces.	Space is provided to allow for various group sizes, projects, individual workstations, as well as general classrooms. Spaces are flexible, allowing for differentiated instruction to accommodate multiple teaching and learning styles.
	Interior Environment	The school should provide an inviting and stimulating environment for learning.	Spatial Configuration (immovable): Does it support the instructional program or are there oddly-placed posts, difficult angles to navigate or awkward spaces to use? Lighting: Is there appropriate natural light (windows with views) and adequate artificial lighting levels? Acoustics: Is there noise transfer between classrooms or from traffic or play areas into the classrooms? The large spaces, e.g., vestibules, halls, cafeteria, etc. are acoustically treated. HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are school common area finishes/equipment worn and/or dated?
	Exterior Environment	Schools should have outdoor areas for learning and social gathering opportunities.	Examples include: Outdoor science/nature learning labs, covered or open instructional areas, and social gathering spaces.

Examples of learning environments:



	Educational Suitability & Technology Readiness Reference Guide MSD	10
---	---	----

MEDIA CENTER

All schools are expected to have a media center. For educational suitability purposes, if the media center is in a portable, all components are scored *Unsatisfactory*.

System	Component	Description	What to Look For
Media Center	Environment	The room should provide an inviting/stimulating environment for learning. There should be space for instruction, research and quiet reading.	Spatial Configuration (immovable): Does it support the instructional program? Lighting: Appropriate natural light/lighting levels? Acoustics: Are acoustic materials in place to allow different activities to occur at the same time without interference? HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are the room finishes/equipment worn and/or dated?
	Size	Elementary: 4 SF/student (min. 1800 SF) Middle School: 4 SF/student (min. 1800 SF) High School: 4 SF/student (min. 1800 SF) Should include an office and workroom.	EXCEL: 90-100% of the room(s) meet standards GOOD: 80-89% of the room(s) meet standards FAIR: 65-79% of the room(s) meet standards POOR: 50-64% of the room(s) meet standards UNSAT: <50% of the room(s) meet standards
	Location	The room should be appropriately located for the program.	The media center should be centrally located to support access of all students and away from noisy parts of the building.
	Storage/Fixed Equip	The room should have adequate storage space and fixed equipment appropriate to the program.	Storage: Adequate permanent casework and enough storage for materials and technology. Fixed Equipment: Space and capability for computer terminals for student use, research and report writing. Equipment should be properly secured. Bookcases are ideally located on the perimeter or are low enough to allow supervision. The space should include a sink in the workroom, high ceilings, and flexible spaces. Space should include break out area for student collaboration, student instruction, and teacher instruction (professional development).

Examples of Media Centers:



	Educational Suitability & Technology Readiness Reference Guide MSD	11
---	---	----

MUSIC

Required space at all levels. If no music room exists, all four components should be scored *Unsatisfactory*. For educational suitability purposes, if the music room is located in a portable, all four components should be scored *Unsatisfactory*. All secondary schools should have separate choir and band space. High schools also have separate orchestral space.

System	Component	Description	What to Look For
Music	Environment	The room should provide an inviting/stimulating environment for learning.	Spatial Configuration (immovable): Size and height of instrumental and choral rehearsal rooms should be sufficient to allow for movement of students and instruments and various presentation arrangements Lighting: Appropriate natural light/lighting levels? Acoustics: Size and height of instrumental and choral rehearsal rooms should be sufficient to allow for acoustic quality. Flooring should be hard surface. HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are the room finishes/equipment worn and/or dated? Safety: Practice rooms have motion-sensor lighting, a window in the door, and adequate acoustical treatment.
	Size	The rooms should meet the square footage standards. 1,000 SF (ES) 3,000 SF (MS) 3 rooms minimum - chorus, orchestra, band 4,000 SF (HS) 3 rooms minimum chorus, orchestra, band. Practice Rooms. Office	EXCEL: 90-100% of the room(s) meet standards GOOD: 80-89% of the room(s) meet standards FAIR: 65-79% of the room(s) meet standards POOR: 50-64% of the room(s) meet standards UNSAT: <50% of the room(s) meet standards
	Location	The room should be appropriately located for the program.	All music rooms shall be located remotely from other classrooms to minimize sound transmission, should have convenient access to the auditorium, and practice rooms should have adequate supervision.
	Storage/Fixed Equip	The room should have adequate storage space and fixed equipment appropriate to the program. Different levels (staired area)	Storage: Room(s) have adequate casework (cabinets and bookshelves), and appropriate storage. Lockable student cabinets for instruments. Fixed Equipment: There should be sinks and storage, depending on type of program. Technology equipment appropriate to the program.

Examples of music classrooms:



NON-INSTRUCTIONAL SPACES

System	Component	Description	What to Look For
Non-Instructional	Administration	Administrative spaces should be configured and equipped appropriately. There should be active control of the front door.	Administrative office/clerical space appropriate for the school size. With adequate reception space for parents and visitors. Storage area for consumable materials. Adult restrooms. Principal's office with space for meetings of four people. Small meeting space for meetings of up to 10 people. Faculty mailboxes should not be accessed through the public space. There needs to be a large storage space adequate to store furniture and excess supplies (not in the mechanical or electrical space).
	Cafeteria	A multi-use room or rooms capable of seating one-third of the capacity of the school for dining.	There is good circulation and routing. The cafeteria is acoustically isolated, has appropriate storage and seating. There needs to be a space to store all the tables and chairs for multipurpose usage. The area for the cafeteria line is designed for the flow of traffic for each lunch period and should allow all students adequate eating time during each lunch period. Tables and benches or seats are designed to maximize space and allow flexibility in the use of the space and create lines of sight for adequate supervision.
	Food Service and Prep	Food service and prep spaces (kitchen, freezer, cooler, office, restrooms, etc.) are sized and located appropriately. The kitchen area should have separate areas for pickup and delivery, have adequate storage, and fixed equipment.	Design of kitchen reflects its planned function, e.g., whether for food preparation or warming only. Space is available for refrigeration and preparation of foods to accommodate maximum number of students planned for the school. Office, changing, and restroom area for food preparation staff is available and shall comply with local department of health requirements. Safety equipment is available. The delivery area is separate from other traffic and does not provide an unsecured access point into the school. Doorbell/buzzer and peephole at access door.
	Clinic	Each school should have a health clinic.	There should be a health service area with space for nurse desk, patient beds (2), filing cabinets, and both dry (locked) and refrigerated medication storage. There should also be an ADA accessible restroom. Cot area should be supervised by office.

NON-INSTRUCTIONAL SPACES (CONTINUED)

System	Component	Description	What to Look For
Non-Instructional	Counseling	There should be office area for the psychologist/counseling program which provides for confidentiality and may be shared with other support service programs. Middle: 3 offices High: 7 offices	There should be a reception/waiting area. The space should be located adjacent to the fireproof records storage. Component requirements Guidance Office = 150 SF Reception = 150 SF Records Room = 150 SF
	Custodial and Maintenance	There should be a custodial receiving area (250 SF) and custodial closets with floor mop sink in each major building area.	The receiving area should be on the ground floor with direct access from delivery truck loading/unloading area and should have shelving for bulk storage of equipment and supplies.
	Student Restrooms	Restroom stalls shall be sufficient to accommodate the maximum planned enrollment and shall be located on campus to allow for supervision.	Restrooms are appropriately located and adequate in number, well-ventilated, and the fixtures are appropriate. Floor and wall surfaces are washable. Toilet partitions and urinal privacy partitions are in place. Restroom ratio should be 1 to 50 for girls, 1 to 75 for boys.
	Faculty Workspace	The faculty should have a space for dining and a work area.	The faculty space should be sized appropriately for the school. There should also be workspace equipped for copying and other instructional materials preparation.

Examples of non-instructional spaces:



OUTSIDE SPACES

System	Component	Description	What to Look For
Outside	Vehicular Traffic	Traffic routing should be safe with good separation.	Bus, parent, and service lanes are "off-street" and do not conflict with each other, playground, or parking areas. There is adequate bus loading near entrances to the building.
	Pedestrian Traffic	Pedestrian traffic routing is safe with good separation from vehicular traffic.	There should be safe walk routes (sidewalks and marked crosswalks) that direct students and the public to appropriate entrances.
	Parking	Parking should be adequate in size and marked.	There is adequate off-street paved, marked, and lighted parking for staff and visitors for daily operations (not events). Parking lots have reasonable access to school entrances. Minimum adequate parking spaces defined as one space per staff member and six visitor spaces. Student parking should be adequate.
	Play Areas/Fields	Play areas should be adjacent to the school, adequate in size, and allow for free and organized play time.	There should be an area for covered play, a hard-surfaced area, and playground equipment. PK/K only: separately fenced area with both hard and grassed areas. For PK, this should be accessed directly from the classroom(s). MS only: include hard surface and grassed areas for physical education. HS only: track and field, football field, soccer fields, baseball and softball fields, and tennis courts. Adequate space for outdoor physical education classes.

Examples of outside spaces:



PERFORMING ARTS

All schools are required to have a performing arts space.

System	Component	Description	What to Look For
Performing Arts	Environment	The room should provide an inviting/stimulating environment for learning.	Spatial Configuration (Immovable): Does it support the instructional program? Lighting: Appropriate lighting levels? Acoustics: Are there impediments to hearing? Is there noise transfer between spaces? HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are the room finishes/equipment worn and/or dated?
	Size	ES: Can be with the cafeteria or gymnasium with a stage. MS/HS: The auditorium should have fixed seating for one grade level. HS: three spaces minimum – auditorium plus two of the following: small theater, black box, prop room, practice room, recording studio, etc.	MS/HS performing arts spaces including auditorium, stage, seating, green room, dressing rooms, sound booth, lighting booth, etc. meet instructional space guidelines/standards. EXCEL: 90-100% of the room(s) meet standards GOOD: 80-89% of the room(s) meet standards FAIR: 65-79% of the room(s) meet standards POOR: 50-64% of the room(s) meet standards UNSAT: <50% of the room(s) meet standards
	Location	The room should be appropriately located for the program.	The performing arts space should be located on the ground floor and acoustically isolated from the quiet spaces. There should be convenient public & after-school access with the means to restrict access to other spaces and easy access to restrooms and water fountains.
	Storage/Fixed Equip	The room should have adequate storage space and fixed equipment appropriate to the program.	The performing arts space should have adequate and appropriate storage, curtain, lighting, sound system, and technology equipment appropriate to the program.

Examples of performing arts spaces:

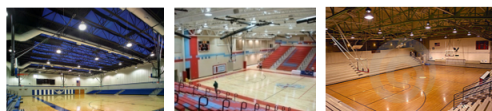


PHYSICAL EDUCATION

All schools are expected to have a P.E. space, with one gym at the ES (can be **gymnasium**) and MS, and two for HS. If no space exists, all four components should be scored *Unsatisfactory*.

System	Component	Description	What to Look For
P.E.	Environment	The room should provide an inviting/stimulating environment for learning.	Spatial Configuration (Immovable): Does it support the instructional program? Lighting: Appropriate natural light/lighting levels? Acoustics: Are there impediments to hearing the teacher? Is there noise transfer between programs? HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are the room finishes/equipment worn and/or dated? Flooring MS/HS: regulation wood gym floor. ES: rubber is Good, wood is Excellent.
	Size	ES: Gym MS: Competition court, 2 regulation cross-courts, seating for entire ASB. Competition gym Boys/girls lockers 2000 SF each w/private shower facilities Storage/Office 600 SF HS: Competition court, 2 regulation cross courts, seating for entire ASB. Competition and practice gym Weight room; multi-purpose (wrestling/dance/gymnastics) Boys/girls lockers 2000 SF each w/private shower facilities Storage/Office 600 SF, training room, concession stand	EXCEL: 90-100% of the room(s) meet standards GOOD: 80-89% of the room(s) meet standards FAIR: 65-79% of the room(s) meet standards POOR: 50-64% of the room(s) meet standards UNSAT: <50% of the room(s) meet standards
	Location	The room should be appropriately located for the program.	The gymnasium is secured from other parts of the campus for evening and weekend events or for public use purposes. Access to public restrooms.
	Storage/Fixed Equip	The room should have adequate storage space and fixed equipment appropriate to the program.	Storage: There should be adequate and appropriate storage. Fixed Equipment: Water fountains and fixed equipment (backboards, safety padding, and bleachers down one side as a minimum). Dance rooms should have a wooden floor and mirrored wall.

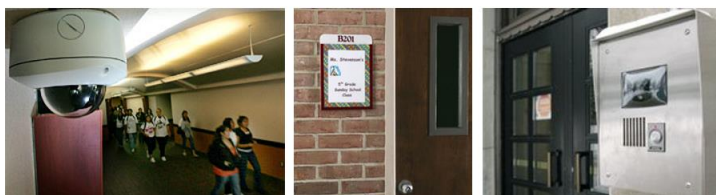
Examples of physical education spaces:



SAFETY & SECURITY

System	Component	Description	What to Look For
Safety and Security	Fencing	The school site should be appropriately fenced.	The school site is appropriately fenced. Entrances and egresses are limited, where appropriate. Preschool/kindergarten playgrounds are fenced separately from other play areas, which should also be completely fenced.
	Signage & Way Finding	Interior and exterior signage should be adequate for the needs of the school.	Adequate signage or graphics direct the public to major spaces (e.g. entrance, office, gym, auditorium, etc.) of the school and grounds. Traffic and parking signs are adequate to direct visitors. All rooms are identified with numbers/signs.
	Ease of Supervision	The building layout and equipment should enhance building supervision.	Supervision is enhanced through proper sightlines, few or no "hiding areas," appropriate interior/exterior lighting, good direct visibility or via security cameras both inside and outside the building. PK/Kindergarten classrooms should be designed to allow supervision of play yards (unless prevented by site shape or size) and all areas of the classroom. Outdoor restrooms having direct outside access are located in areas that are visible from playground and are easily supervised. No easy sight into assembly areas.
	Controlled Entrances	Points of entry should be controlled for student and staff safety.	School design or configuration allows for control of entrances to the school. Public entrances are easily supervised and controlled with a security vestibule. Intercom and buzzer system.

Examples of safety & security:



	Educational Suitability & Technology Readiness Reference Guide MSD	18
--	---	----

SELF-CONTAINED SPECIAL EDUCATION

Required space where program exists, score N/A if program does not exist. For educational suitability purposes, if some self-contained rooms are located in a portable building, the comment for all four components should include this information and scores lowered based on the percent that are located in portable buildings. If all self-contained rooms are in portables, all components are scored *Unsatisfactory*.

System	Component	Description	What to Look For
Self-Contained Special Ed	Environment	The room should provide an inviting/stimulating environment for learning.	Spatial Configuration (Immovable): Does it support the instructional program? Lighting: Appropriate natural light/lighting levels? Acoustics: Are there impediments to hearing the teacher? Is there noise transfer between classrooms? HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are the room finishes/equipment worn and/or dated?
	Size	The room should meet the square footage standards. 1110 SF (ES) 1200 SF (MS) 1200 SF (HS)	EXCEL: 90-100% of the room(s) meet standards GOOD: 80-89% of the room(s) meet standards FAIR: 65-79% of the room(s) meet standards POOR: 50-64% of the room(s) meet standards UNSAT: <50% of the room(s) meet standards
	Location	The room should be appropriately located for the program.	The classroom(s) should be shielded from noise-producing activities and located centrally.
	Storage/Fixed Equip	The room should have adequate storage space and fixed equipment appropriate to the program.	Storage: Room(s) have adequate permanent casework and teacher and student storage. Fixed Equipment: The classrooms should have special needs equipment and technology equipment appropriate to the program. Each room should have a restroom with hot water, and convenient changing area. There should be a washer/dryer in a convenient location.

Examples of self-contained special education classrooms:



	Educational Suitability & Technology Readiness Reference Guide MSD	19
--	---	----

SCIENCE LAB

Required space at MS/HS, score all four components *Unsatisfactory* if none exists. For educational suitability purposes, if all the science rooms are located in a portable, all four components should be scored *Unsatisfactory*. The secondary schools should include both classrooms and lab spaces.

System	Component	Description	What to Look For
Science	Environment	The room should provide an inviting/stimulating environment for learning.	Spatial Configuration (Immovable): Classrooms are flexibly designed to insure full student access to laboratory stations and lecture areas. Lighting: Appropriate natural light/lighting levels? Acoustics: Are there impediments to hearing the teacher? Is there noise transfer between classrooms? HVAC/Temperature: Is there proper ventilation and consistent and adequate climate control? Aesthetics: Are the room finishes/equipment worn and/or dated? Flooring: There should be wet flooring.
	Size	The room should meet the square footage standards. 1080 SF (if lab only) 1440 SF (if combination lab-classroom)	EXCEL: 90-100% of the room(s) meet standards GOOD: 80-89% of the room(s) meet standards FAIR: 65-79% of the room(s) meet standards POOR: 50-64% of the room(s) meet standards UNSAT: <50% of the room(s) meet standards
	Location	The room should be appropriately located for the program.	The science classroom should be shielded from noise-producing activities or functions. Storage: Space for teaching materials and adequate permanent casework. There should be separate secured storage areas area provided for volatile, flammable, and corrosive chemicals and cleaning agents.
	Storage/Fixed Equip	The room should have adequate storage space and fixed equipment appropriate to the program.	Fixed Equipment: There should be a science classroom with wet flooring, appropriate science storage and extra sinks as well as safety equipment (FE, shower, eyewash) and supplies. A separate room for storage and prep area. Fume hoods in 50% of the rooms, water and gas in all spaces, chemical storage, prep room. Maximum of 24 workstations. One ADA workstation.

Examples of science classrooms & labs



Educational Suitability & Technology Readiness Reference Guide
MSD

| 20

TECHNOLOGY READINESS

Standard: wireless capability throughout the school, fiber access to each school, telephones to each instructional space, and four hardwire connections to each classroom.



System	Component	Description	What to Look For
Technology Readiness	Comm./IT Environment	Communications and IT equipment should be in a climate-controlled environment that is secure and accessible.	Equipment is located in a place designed for Comm/IT equipment. Space is properly climate-controlled, secure, easily accessed. The area has adequate storage, utilities, and fixed equipment and is free of clutter.
	Electrical Power	Sufficient electrical power to provide for each student and staff operation of multiple devices.	No power strips, no extension cords, no plug-in outlet extenders. Check for microwave, coffee pots, refrigerators, etc. Check for breaker tripping.
	Cooling	Classrooms and computer lab computers should be in a climate-controlled environment.	Each CR or computer lab has sufficient HVAC capacity for the equipment present. Is the HVAC zoned separately to keep servers in a ventilated and humidity-controlled environment?
	Network	All schools should be connected to the Local Area Network. There should be adequate network access to provide for ubiquitous wireless in all instructional spaces.	If Network connection is not fiber based, connectivity should score some or disagree.
	Connectivity	Each area (CR, media center, computer lab and support area) has adequate network access for computers and applicable instructional technology devices through either network drops or dense wireless	
	Network Performance	Network should allow for educational, administrative, and operational programs to run in a fashion that does not impede teacher, students, and staff from performing their daily functions and responsibilities.	Internet connectivity is available and reliable. If network performance is an issue, Comment Item and the Project manager will check with district Technology Director to identify potential causes.
	Video Distribution	All schools should have capability to stream live internet feeds or other video sources without disruption to other network functions.	There should be a projection device in each classroom.



Educational Suitability & Technology Readiness Reference Guide
MSD

| 21

	Voice Distribution	All schools should have the capability to direct contact each classroom, support, and office spaces. Capability to have building-wide paging and announcements. Voicemail capabilities for staff.	Paging should be heard in all spaces; inside the building and parking lot areas and bus drop off area, and playgrounds and fields. Faculty and Staff have voicemail access.
	Faculty/Staff	Faculty and Staff: All staff should have fixed equipment.	Faculty stations have hardwired connections and sufficient electrical power to run computers and multimedia equipment in classrooms. Staff stations have appropriately located computer drops and electrical outlets

BASYS ORDER TOC

This table of contents is as each component listed in BASYS-order but with the Guide page number for handy reference.

LEARNING ENVIRONMENT	10
GENERAL CLASSROOMS	7
KINDERGARTEN	9
EARLY CHILDHOOD EDUCATION.....	6
SELF-CONTAINED SPECIAL EDUCATION	19
INSTRUCTIONAL RESOURCE ROOMS	8
SCIENCE	20
MUSIC	12
ART CLASSROOMS	2
COMPUTER LABS	5
PHYSICAL EDUCATION	17
PERFORMING ARTS.....	16
MEDIA CENTER	11
OUTSIDE SPACES.....	15
CAREER & TECHNICAL EDUCATION	4
NON-INSTRUCTIONAL SPACES	13
SAFETY & SECURITY	18
TECHNOLOGY READINESS	21

Appendix B

DAVIS DEMOGRAPHICS SUMMARY REPORT



MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

District Summary Report

	Current	Forecasted Resident Counts									
Grade	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PK	240	337.9	339.5	334.4	309.3	311.2	330.8	331.6	331.6	331.6	331.6
K*	743	958.0	977.8	968.1	893.2	960.1	961.0	960.0	960.0	960.0	960.0
1	958	980.9	981.5	1,004.3	995.5	917.4	985.3	984.0	982.9	982.9	982.9
2	926	919.4	942.0	945.0	967.8	958.0	882.5	945.6	944.3	943.3	943.3
3	946	891.2	885.4	909.5	913.4	934.1	924.1	849.4	910.1	908.8	907.9
4	1,010	921.4	868.6	865.4	889.9	892.4	911.9	900.1	827.3	886.4	885.2
5	921	984.5	898.8	849.8	847.6	870.2	872.0	889.0	877.4	806.4	864.1
6	908	849.7	908.9	832.1	787.8	784.6	804.9	804.5	820.2	809.5	744.0
7	960	898.8	841.5	901.2	825.6	781.1	777.6	796.8	796.4	811.9	801.3
8	946	932.8	873.8	819.2	877.6	803.5	760.0	755.7	774.2	773.9	788.9
9	914	922.3	912.4	858.6	805.3	860.3	786.7	741.0	736.8	754.9	754.5
10	1,075	891.2	902.1	896.2	843.7	789.8	842.0	767.0	722.5	718.4	736.0
11	963	1,091.1	907.5	922.6	916.5	861.2	805.0	854.7	778.5	733.3	729.1
12	823	938.9	1,066.7	891.4	906.1	898.2	842.9	784.9	833.3	759.0	715.0
Resident Student Totals by Grade Configuration											
PK-5	5,744	5,993.3	5,893.6	5,876.5	5,816.7	5,843.4	5,867.6	5,859.7	5,833.6	5,819.4	5,875.0
6-8	2,814	2,681.3	2,624.2	2,552.5	2,491.0	2,369.2	2,342.5	2,357.0	2,390.8	2,395.3	2,334.2
9-12	3,775	3,843.5	3,788.7	3,568.8	3,471.6	3,409.5	3,276.6	3,147.6	3,071.1	2,965.6	2,934.6
PK-12	12,333	12,518.1	12,306.5	11,997.8	11,779.3	11,622.1	11,486.7	11,364.3	11,295.5	11,180.3	11,143.8
Unmatched Students											
PK-5	1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6-8	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-12	3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
PK-12	4	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Out-of-District Students											
PK-5	26	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
6-8	11	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
9-12	58	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0
PK-12	95	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
Total Students*											
PK-5	5,771	6,020.3	5,920.6	5,903.5	5,843.7	5,870.4	5,894.6	5,886.7	5,860.6	5,846.4	5,902.0
6-8	2,825	2,692.3	2,635.2	2,563.5	2,502.0	2,380.2	2,353.5	2,368.0	2,401.8	2,406.3	2,345.2
9-12	3,836	3,904.5	3,849.7	3,629.8	3,532.6	3,470.5	3,337.6	3,208.6	3,132.1	3,026.6	2,995.6
PK-12	12,432	12,617.1	12,405.5	12,096.8	11,878.3	11,721.1	11,585.7	11,463.3	11,394.5	11,279.3	11,242.8
Annual Change											
PK-5 Difference	5,746	249.3	-99.7	-17.1	-59.8	26.7	24.2	-7.9	-26.1	-14.2	55.6
6-8 Difference	2,816	-132.7	-57.1	-71.7	-61.5	-121.8	-26.7	14.5	33.8	4.5	-61.1
9-12 Difference	3,824	68.5	-54.8	-219.9	-97.2	-62.1	-132.9	-129.0	-76.5	-105.5	-31.0
PK-12 Difference	12,386	185.1	-211.6	-308.7	-218.5	-157.2	-135.4	-122.4	-68.8	-115.2	-36.5
Notes											
Forecast based on student data for 2020 provided by MSD.											
*Kindergarten class was extremely low due to COVID-19 pandemic. Forecasted PK and K classes are adjusted to reflect historic averages experienced in district. The 2020 K Class was adjusted to show the effect if the students returned back to MSD for fall 2021.											



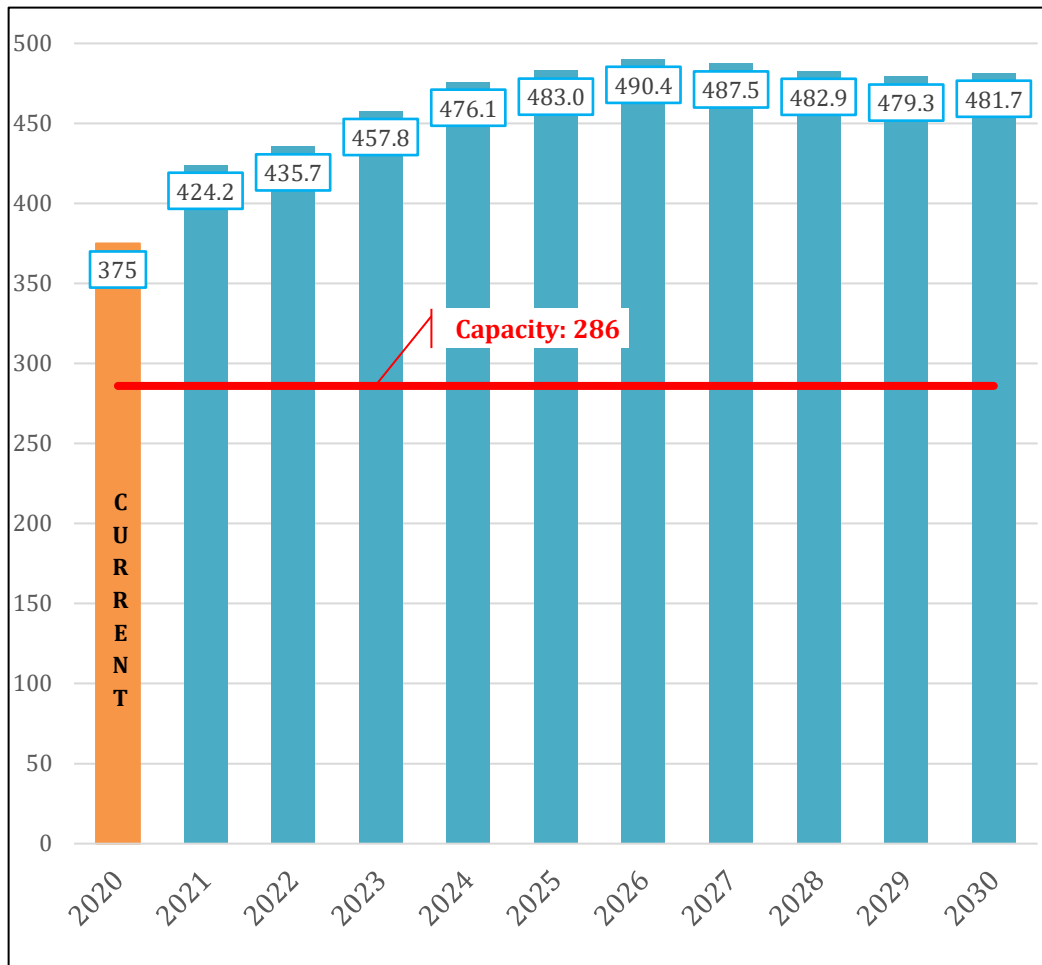
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

Bakersville School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	35	49.3	49.5	49.0	46.2	47.2	50.5	51.0	51.0	51.0	51.0
K	44	71.0	72.4	73.7	69.2	74.3	74.9	74.4	74.4	74.4	74.4
1	71	72.7	72.7	76.4	77.8	72.1	77.3	76.7	76.1	76.1	76.1
2	54	68.1	69.8	71.9	75.5	75.8	70.4	74.2	73.6	73.1	73.1
3	58	52.0	65.6	69.3	71.3	73.8	74.1	67.7	71.4	70.9	70.3
4	56	56.5	50.6	66.0	69.6	70.7	73.1	72.2	66.0	69.5	69.0
5	57	54.6	55.1	51.5	66.5	69.1	70.1	71.3	70.4	64.3	67.8
Forecasted Resident Students											
Total PK-5	375	424.2	435.7	457.8	476.1	483.0	490.4	487.5	482.9	479.3	481.7

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
49.2	11.5	22.1	18.3	6.9	7.4	-2.9	-4.6	-3.6	2.4
13.1%	2.7%	5.1%	4.0%	1.4%	1.5%	-0.6%	-0.9%	-0.7%	0.5%



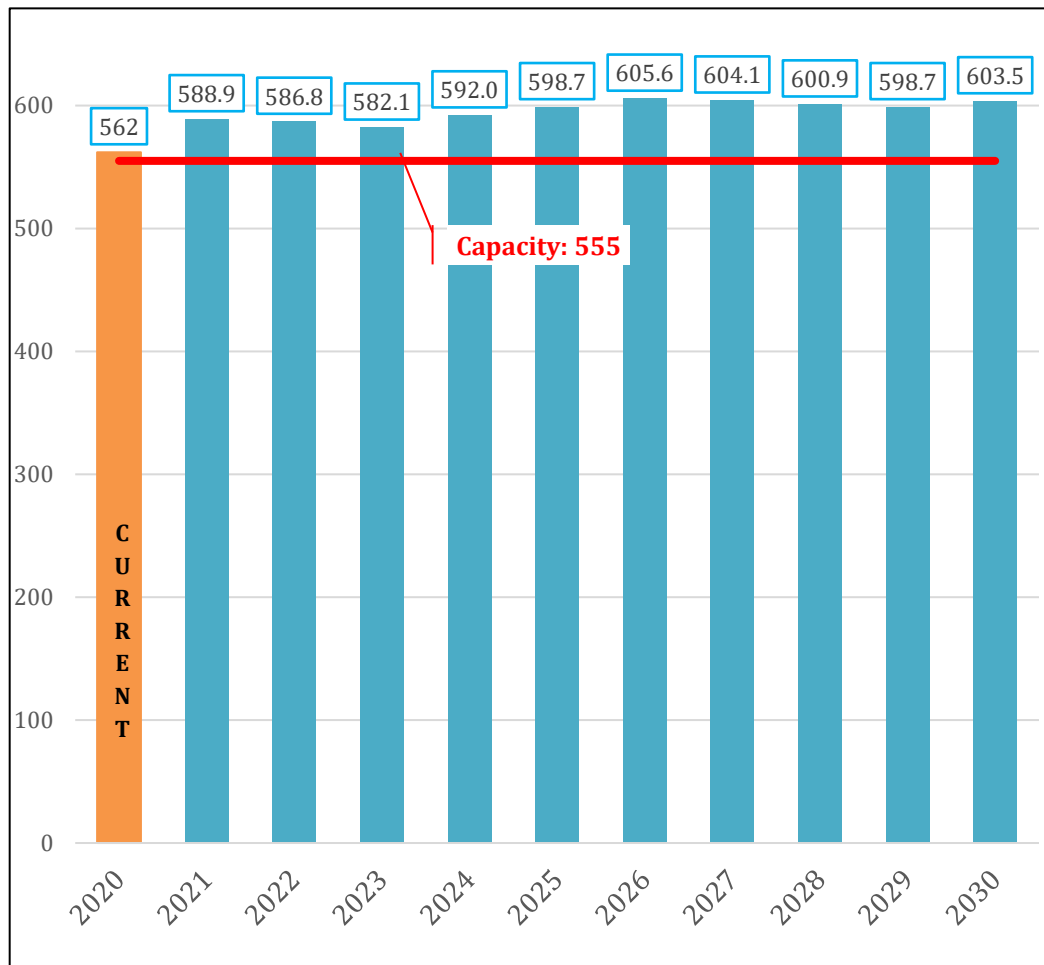
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

Beech Street School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	30	42.2	42.4	41.7	38.5	39.0	41.8	42.1	42.1	42.1	42.1
K	67	96.0	97.9	96.8	89.9	97.0	97.5	97.1	97.1	97.1	97.1
1	96	98.3	98.3	100.4	100.0	93.0	100.3	99.8	99.4	99.4	99.4
2	78	92.1	94.3	94.4	97.2	96.9	90.1	96.2	95.8	95.4	95.4
3	97	75.1	88.7	90.9	91.8	94.4	94.1	86.7	92.6	92.2	91.8
4	93	94.5	73.1	86.5	89.4	90.3	92.9	91.7	84.5	90.2	89.8
5	101	90.7	92.1	71.4	85.2	88.1	88.9	90.5	89.4	82.3	87.9
Forecasted Resident Students											
Total PK-5	562	588.9	586.8	582.1	592.0	598.7	605.6	604.1	600.9	598.7	603.5

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
26.9	-2.1	-4.7	9.9	6.7	6.9	-1.5	-3.2	-2.2	4.8
4.8%	-0.4%	-0.8%	1.7%	1.1%	1.2%	-0.2%	-0.5%	-0.4%	0.8%



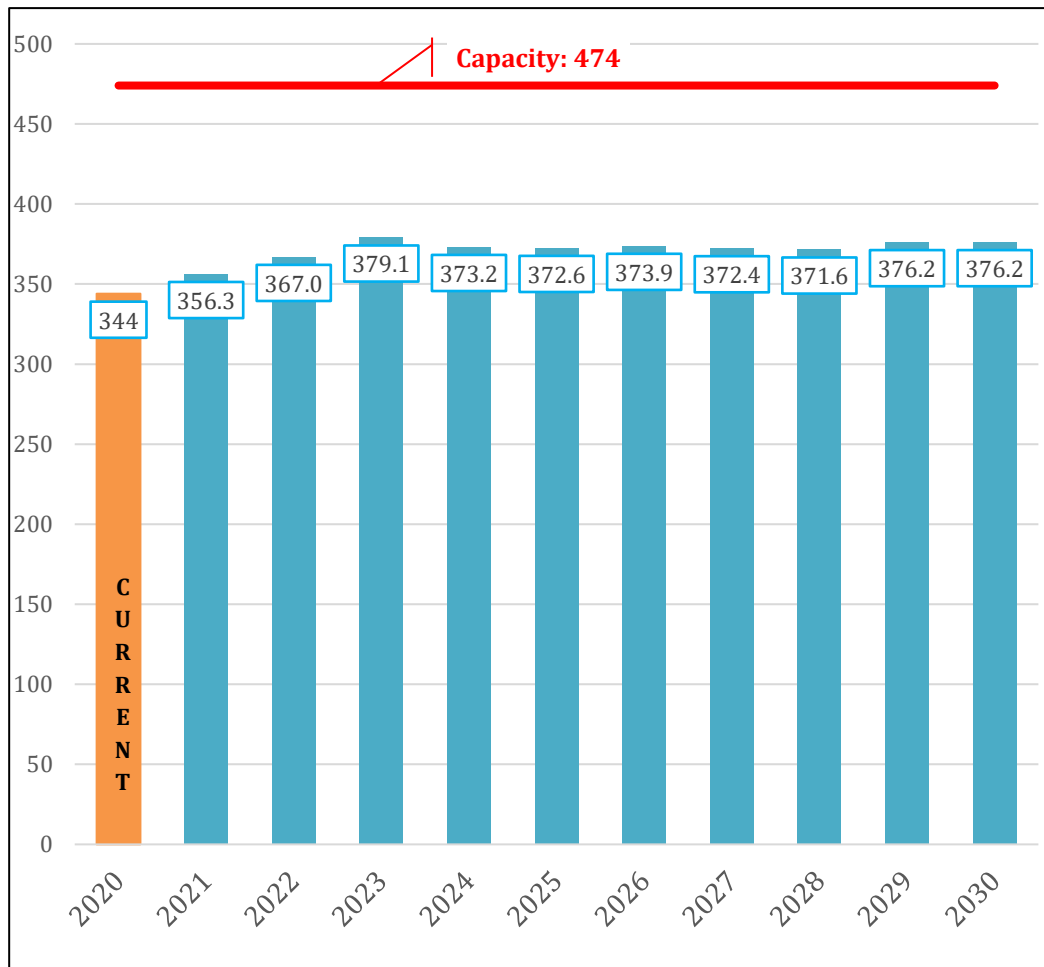
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

Gossler Park School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	20	28.2	28.3	27.8	25.6	25.6	27.1	27.1	27.1	27.1	27.1
K	58	72.0	73.4	72.5	66.7	71.6	71.6	71.6	71.6	71.6	71.6
1	72	73.7	73.7	75.2	74.3	68.3	73.4	73.4	73.4	73.4	73.4
2	58	69.1	70.7	70.7	72.2	71.3	65.5	70.4	70.4	70.4	70.4
3	59	55.8	66.5	68.1	68.1	69.5	68.6	63.1	67.7	67.7	67.7
4	77	57.5	54.4	64.8	66.3	66.3	67.7	66.8	61.4	66.0	66.0
5	77	75.1	56.0	53.0	63.2	64.7	64.7	66.0	65.1	59.9	64.3
Forecasted Resident Students											
Total PK-4	344	356.3	367.0	379.1	373.2	372.6	373.9	372.4	371.6	376.2	376.2

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
12.3	10.7	12.1	-5.9	-0.6	1.3	-1.5	-0.8	4.6	0.0
3.6%	3.0%	3.3%	-1.6%	-0.2%	0.3%	-0.4%	-0.2%	1.2%	0.0%



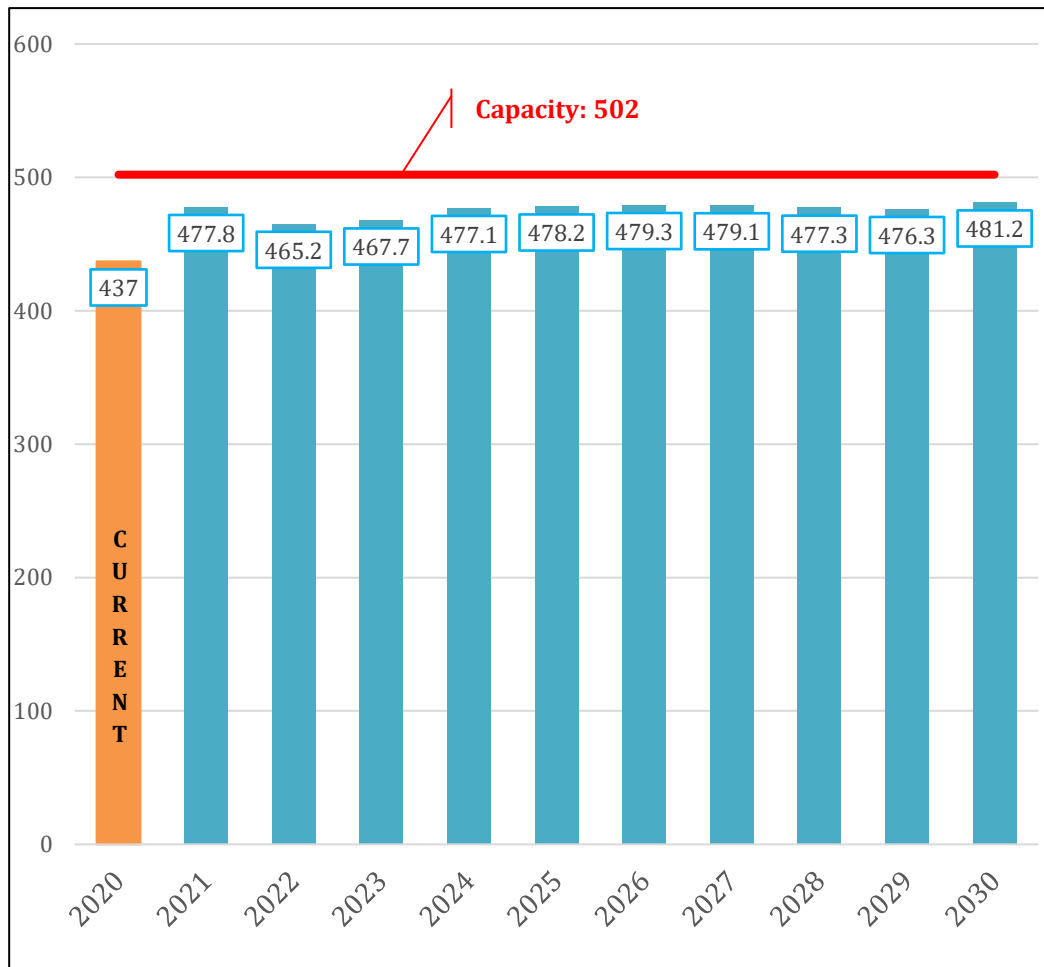
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

Green Acres School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	16	22.5	22.6	22.2	20.5	20.5	21.7	21.7	21.7	21.7	21.7
K	55	80.0	81.6	80.6	74.1	79.6	79.6	79.6	79.6	79.6	79.6
1	80	81.9	81.9	83.6	82.5	75.9	81.6	81.6	81.5	81.5	81.5
2	60	76.8	78.6	78.7	80.3	79.2	72.9	78.3	78.3	78.2	78.2
3	74	57.7	73.9	75.7	75.7	77.3	76.3	70.2	75.4	75.3	75.3
4	89	72.1	56.3	72.0	73.8	73.8	75.3	74.3	68.3	73.4	73.4
5	63	86.8	70.3	54.9	70.2	71.9	71.9	73.4	72.5	66.6	71.5
Forecasted Resident Students											
Total PK-5	437	477.8	465.2	467.7	477.1	478.2	479.3	479.1	477.3	476.3	481.2

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
40.8	-12.6	2.5	9.4	1.1	1.1	-0.2	-1.8	-1.0	4.9
9.3%	-2.6%	0.5%	2.0%	0.2%	0.2%	0.0%	-0.4%	-0.2%	1.0%



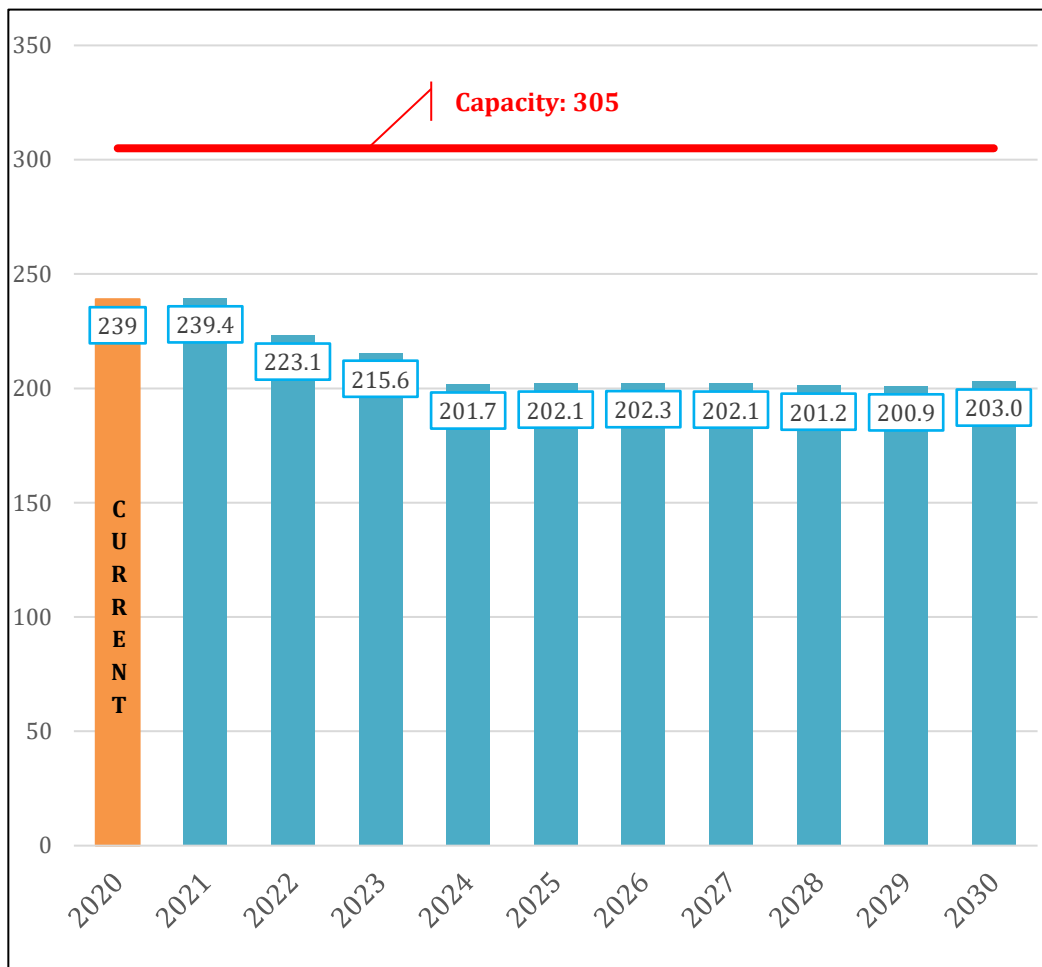
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

Hallsville School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	5	7.0	7.1	7.1	6.5	6.5	6.9	6.9	6.9	6.9	6.9
K	34	34.0	34.9	34.4	31.6	34.0	34.0	34.0	34.0	34.0	34.0
1	34	34.8	35.1	35.8	35.2	32.4	34.8	34.8	34.8	34.8	34.8
2	45	32.6	33.7	33.7	34.3	33.8	31.1	33.4	33.4	33.4	33.4
3	40	43.3	31.7	32.4	32.4	33.0	32.5	29.9	32.1	32.1	32.1
4	50	39.0	42.4	30.8	31.6	31.6	32.2	31.7	29.1	31.3	31.3
5	31	48.7	38.2	41.4	30.1	30.8	30.8	31.4	30.9	28.4	30.5
Forecasted Resident Students											
Total PK-5	239	239.4	223.1	215.6	201.7	202.1	202.3	202.1	201.2	200.9	203.0

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
0.4	-16.3	-7.5	-13.9	0.4	0.2	-0.2	-0.9	-0.3	2.1
0.2%	-6.8%	-3.4%	-6.4%	0.2%	0.1%	-0.1%	-0.4%	-0.1%	1.0%



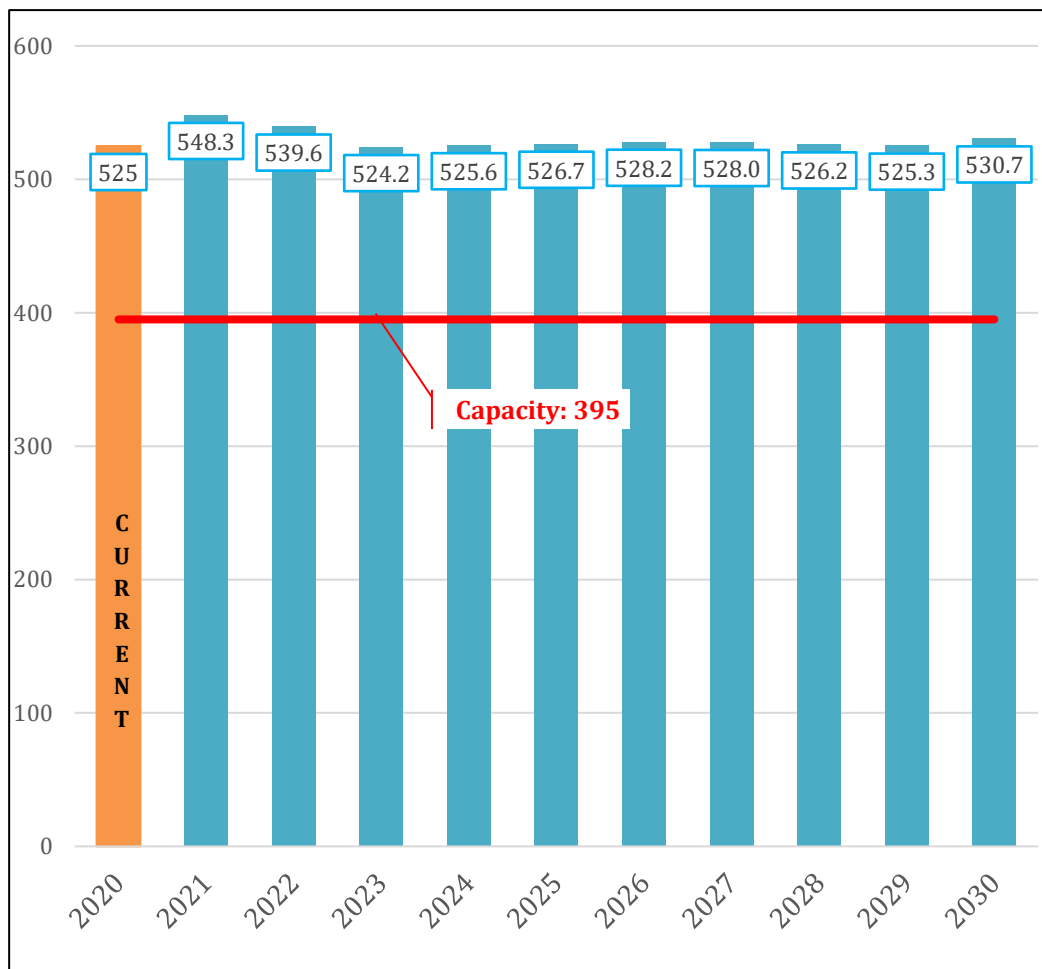
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

Henry Wilson Elementary School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	23	32.4	32.5	32.0	29.4	29.4	31.1	31.1	31.1	31.1	31.1
K	65	87.0	88.7	87.6	80.6	86.6	86.6	86.6	86.6	86.6	86.6
1	87	89.1	89.1	90.9	89.7	82.5	88.6	88.6	88.6	88.6	88.6
2	74	83.5	85.5	85.5	87.2	86.1	79.2	85.1	85.1	85.1	85.1
3	99	71.2	80.4	82.3	82.3	83.9	82.9	76.2	81.9	81.9	81.9
4	91	96.4	69.4	78.3	80.1	80.1	81.7	80.7	74.2	79.7	79.7
5	86	88.7	94.0	67.6	76.3	78.1	78.1	79.7	78.7	72.3	77.7
Forecasted Resident Students											
Total PK-5	525	548.3	539.6	524.2	525.6	526.7	528.2	528.0	526.2	525.3	530.7

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
23.3	-8.7	-15.4	1.4	1.1	1.5	-0.2	-1.8	-0.9	5.4
4.4%	-1.6%	-2.9%	0.3%	0.2%	0.3%	0.0%	-0.3%	-0.2%	1.0%



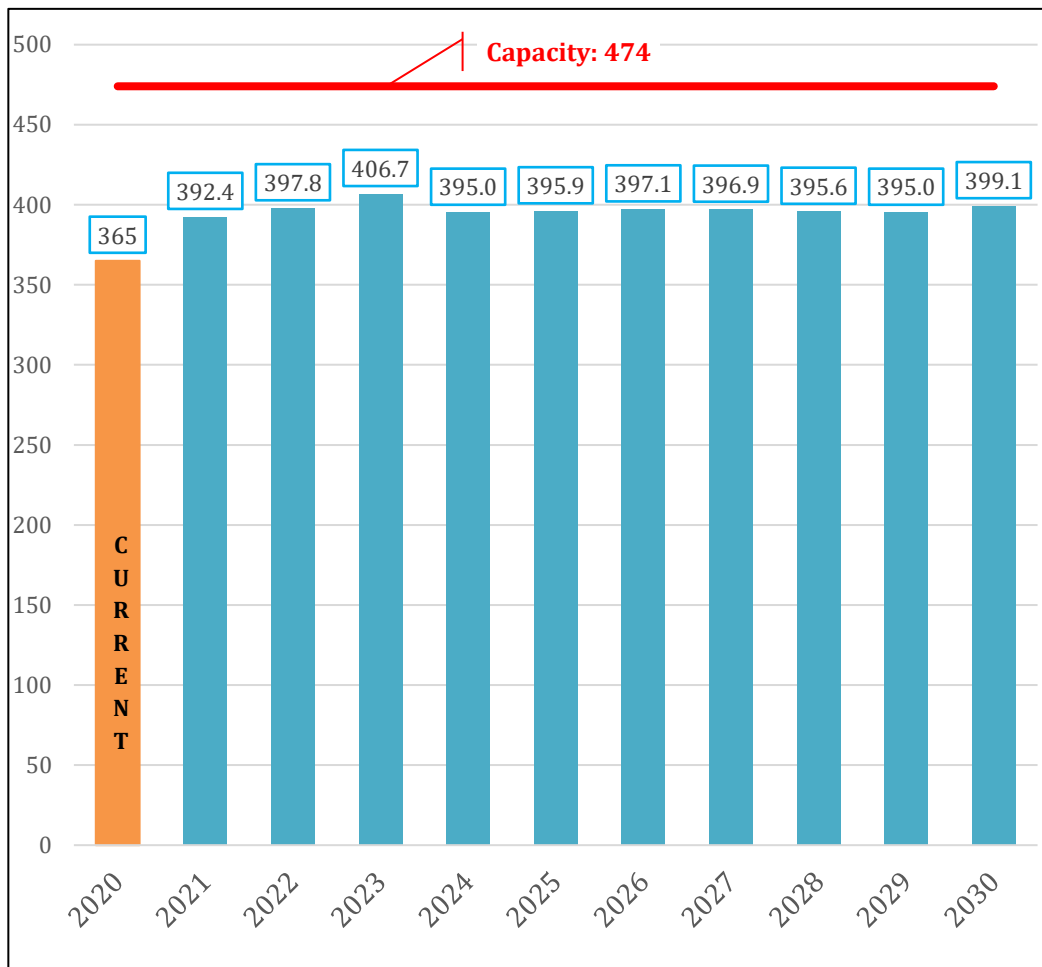
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

Highland Goffes Falls School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	19	26.8	26.9	26.4	24.3	24.3	25.7	25.7	25.7	25.7	25.7
K	47	65.0	66.3	65.5	60.2	64.7	64.7	64.7	64.7	64.7	64.7
1	65	66.6	66.6	67.9	67.0	61.6	66.2	66.2	66.2	66.2	66.2
2	69	62.4	63.9	63.9	65.1	64.3	59.1	63.6	63.6	63.6	63.6
3	52	66.4	60.0	61.5	61.5	62.7	61.9	56.9	61.2	61.2	61.2
4	56	50.6	64.7	58.5	59.9	59.9	61.1	60.3	55.4	59.6	59.6
5	57	54.6	49.4	63.0	57.0	58.4	58.4	59.5	58.8	54.0	58.1
Forecasted Resident Students											
Total PK-5	365	392.4	397.8	406.7	395.0	395.9	397.1	396.9	395.6	395.0	399.1

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
27.4	5.4	8.9	-11.7	0.9	1.2	-0.2	-1.3	-0.6	4.1
7.5%	1.4%	2.2%	-2.9%	0.2%	0.3%	-0.1%	-0.3%	-0.2%	1.0%



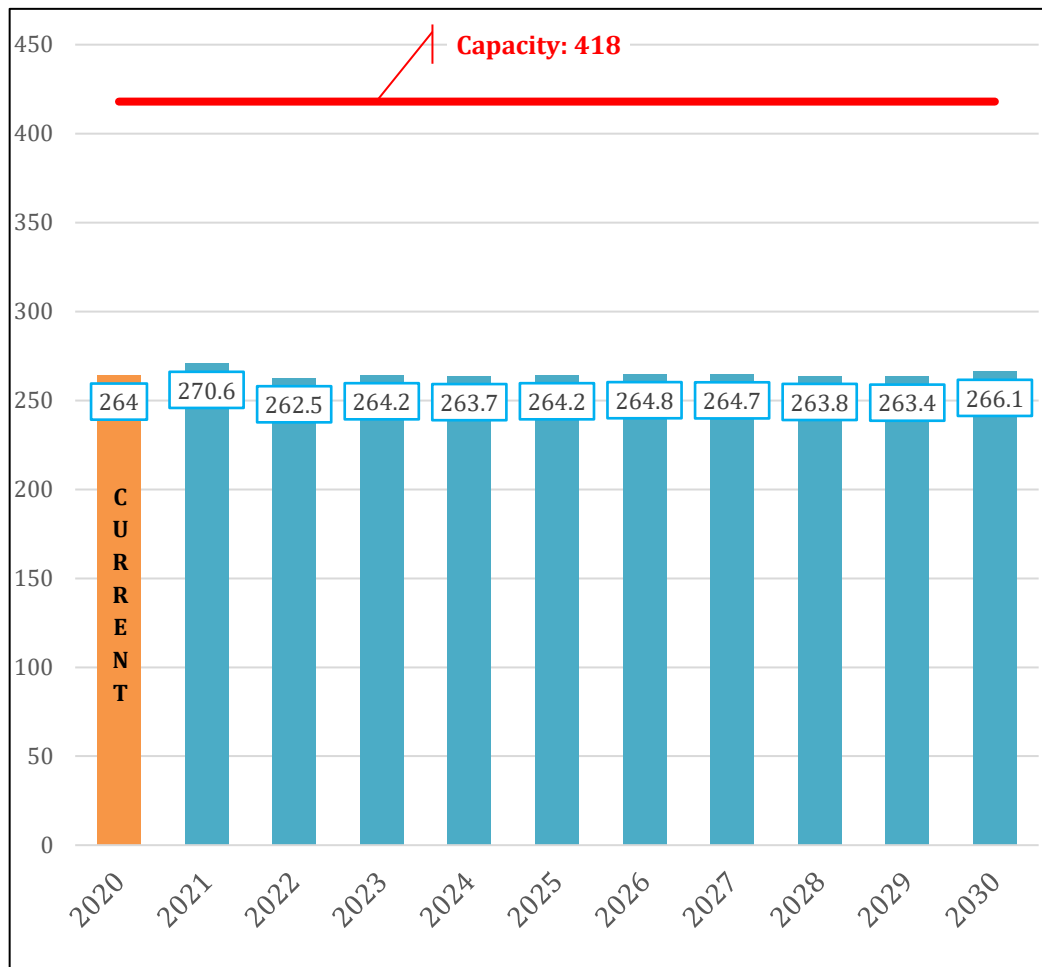
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

Jewett School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	10	14.1	14.1	13.9	12.8	12.8	13.5	13.5	13.5	13.5	13.5
K	32	44.0	44.9	44.3	40.7	43.8	43.8	43.8	43.8	43.8	43.8
1	44	45.1	45.1	46.0	45.4	41.7	44.8	44.8	44.8	44.8	44.8
2	39	42.2	43.2	43.2	44.1	43.5	40.0	43.0	43.0	43.0	43.0
3	40	37.5	40.6	41.6	41.6	42.4	41.9	38.5	41.4	41.4	41.4
4	50	39.0	36.6	39.6	40.5	40.5	41.3	40.8	37.5	40.3	40.3
5	49	48.7	38.0	35.6	38.6	39.5	39.5	40.3	39.8	36.6	39.3
Forecasted Resident Students											
Total PK-5	264	270.6	262.5	264.2	263.7	264.2	264.8	264.7	263.8	263.4	266.1

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
6.6	-8.1	1.7	-0.5	0.5	0.6	-0.1	-0.9	-0.4	2.7
2.5%	-3.0%	0.6%	-0.2%	0.2%	0.2%	0.0%	-0.3%	-0.2%	1.0%



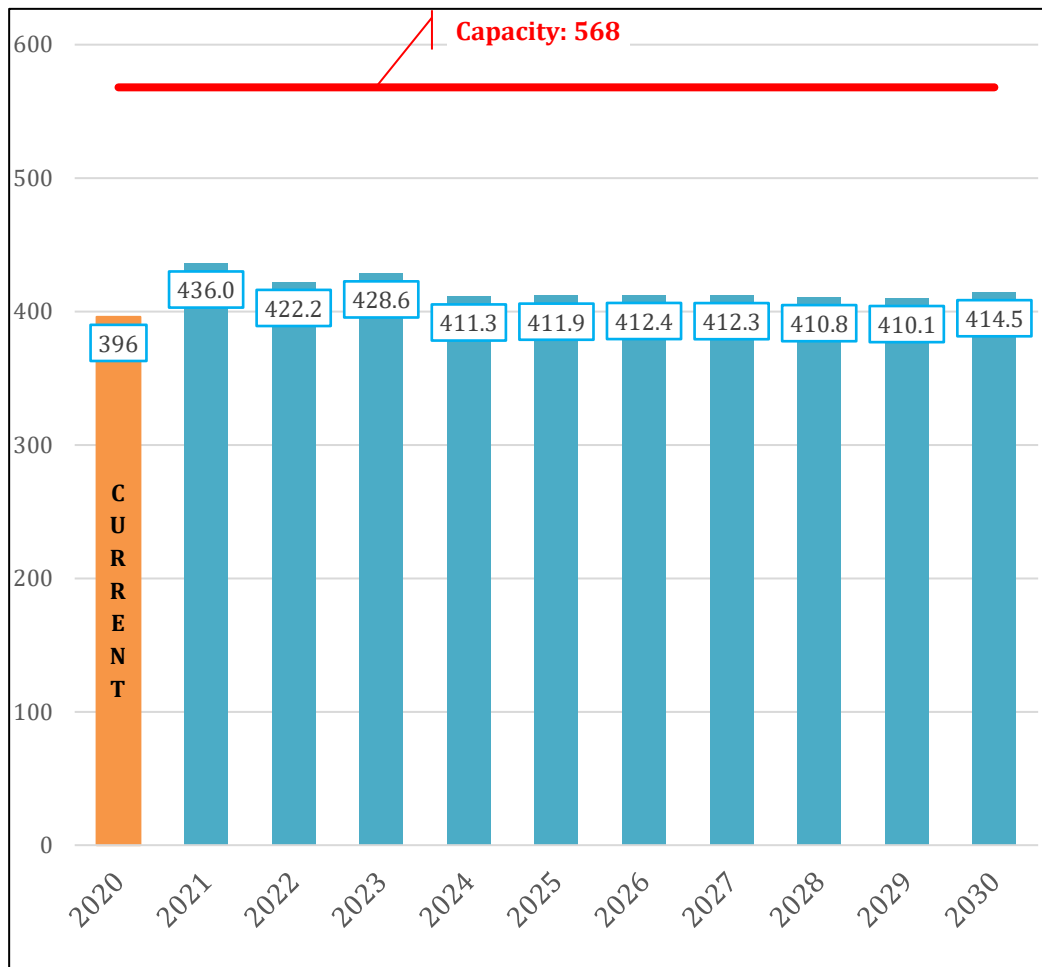
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

McDonough School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	9	12.7	12.7	12.5	11.5	11.5	12.2	12.2	12.2	12.2	12.2
K	48	70.0	71.4	70.6	64.9	69.7	69.7	69.7	69.7	69.7	69.7
1	70	71.7	71.7	73.2	72.3	66.4	71.4	71.4	71.4	71.4	71.4
2	81	67.2	68.8	68.9	70.2	69.3	63.7	68.5	68.5	68.5	68.5
3	60	78.0	64.7	66.3	66.3	67.6	66.7	61.3	65.9	65.9	65.9
4	80	58.4	75.9	63.0	64.6	64.5	65.8	65.0	59.7	64.2	64.2
5	48	78.0	57.0	74.1	61.5	62.9	62.9	64.2	63.4	58.2	62.6
Forecasted Resident Students											
Total PK-5	396	436.0	422.2	428.6	411.3	411.9	412.4	412.3	410.8	410.1	414.5

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
40.0	-13.8	6.4	-17.3	0.6	0.5	-0.1	-1.5	-0.7	4.4
10.1%	-3.2%	1.5%	-4.0%	0.1%	0.1%	0.0%	-0.4%	-0.2%	1.1%



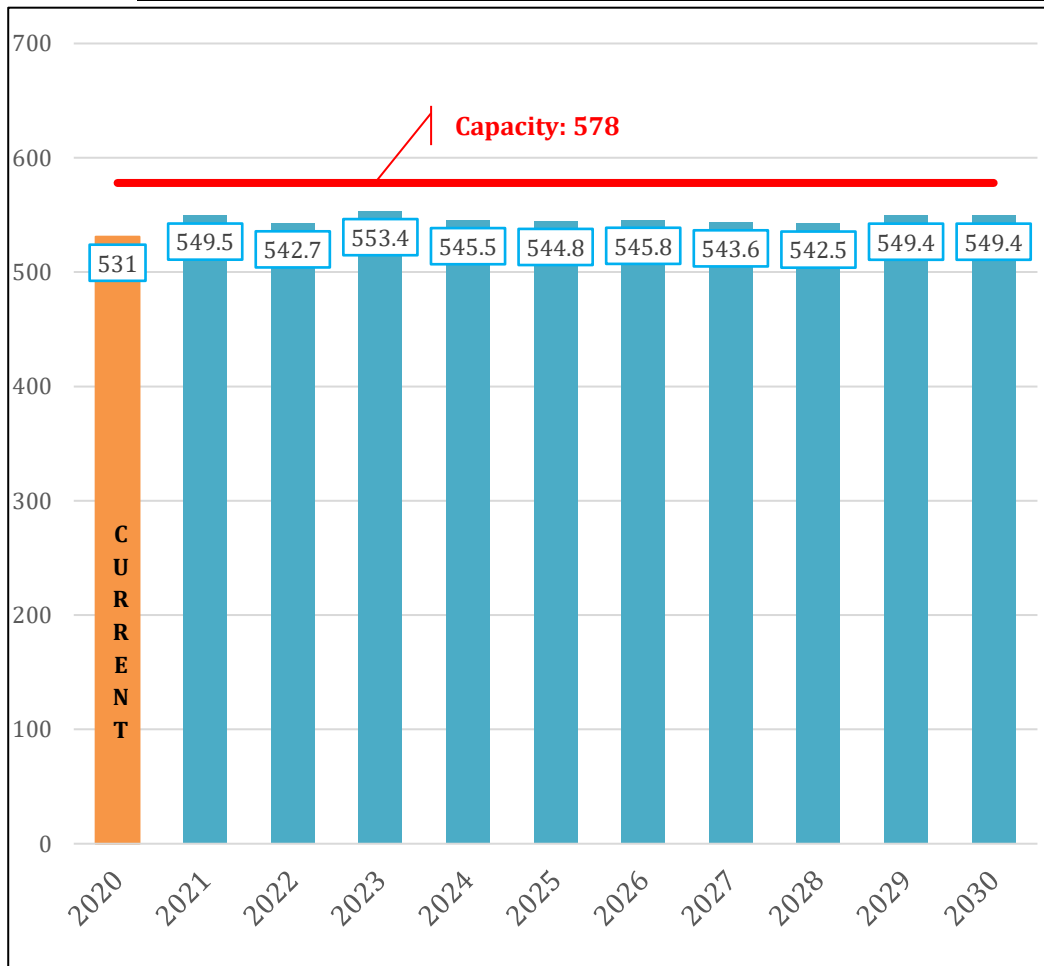
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

Northwest Elementary School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	19	26.8	26.9	26.4	24.3	24.3	25.7	25.7	25.7	25.7	25.7
K	80	108.0	110.2	108.8	100.0	107.5	107.5	107.5	107.5	107.5	107.5
1	108	110.6	110.6	112.8	111.4	102.4	110.0	110.0	110.0	110.0	110.0
2	95	103.6	106.1	106.1	108.2	106.9	98.3	105.6	105.6	105.6	105.6
3	112	91.4	99.8	102.1	102.1	104.2	102.8	94.6	101.6	101.6	101.6
4	117	109.1	89.1	97.2	99.5	99.5	101.5	100.2	92.1	99.0	99.0
5	98	114.1	106.3	86.8	94.7	97.0	97.0	98.9	97.7	89.8	96.5
Forecasted Resident Students											
Total PK-4	531	549.5	542.7	553.4	545.5	544.8	545.8	543.6	542.5	549.4	549.4

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
18.5	-6.8	10.7	-7.9	-0.7	1.0	-2.2	-1.1	6.9	0.0
3.5%	-1.2%	2.0%	-1.4%	-0.1%	0.2%	-0.4%	-0.2%	1.3%	0.0%



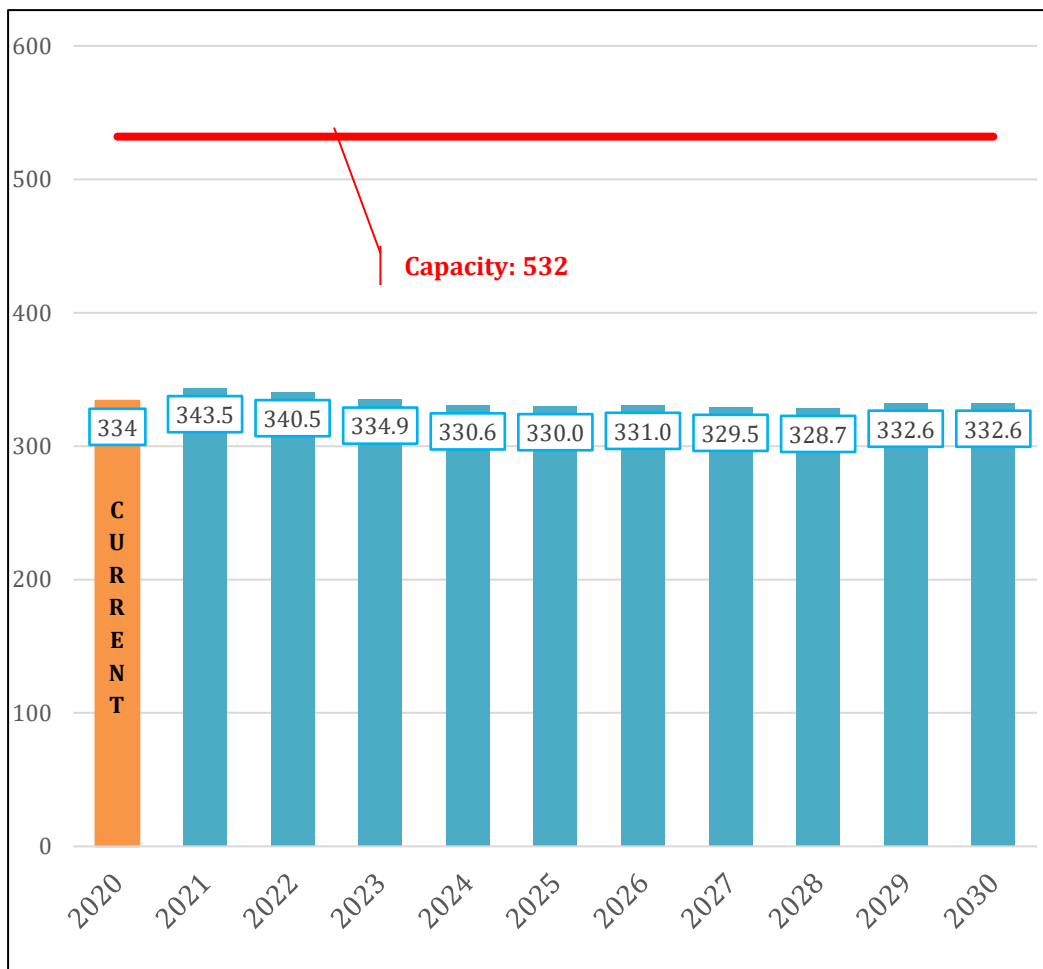
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

Parker Varney School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	19	26.8	26.9	26.4	24.4	24.5	26.0	26.0	26.0	26.0	26.0
K	51	63.0	64.3	63.7	58.7	62.9	62.9	62.9	62.9	62.9	62.9
1	63	64.5	64.5	66.0	65.4	60.1	64.4	64.4	64.4	64.4	64.4
2	69	60.5	61.9	62.1	63.6	62.8	57.7	61.8	61.8	61.8	61.8
3	64	66.4	58.2	59.8	60.0	61.2	60.4	55.5	59.5	59.5	59.5
4	68	62.3	64.7	56.9	58.5	58.5	59.6	58.9	54.1	58.0	58.0
5	74	66.3	60.8	63.3	55.7	57.0	57.0	58.1	57.4	52.7	56.5
Forecasted Resident Students											
Total PK-4	334	343.5	340.5	334.9	330.6	330.0	331.0	329.5	328.7	332.6	332.6

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
9.5	-3.0	-5.6	-4.3	-0.6	1.0	-1.5	-0.8	3.9	0.0
2.8%	-0.9%	-1.6%	-1.3%	-0.2%	0.3%	-0.5%	-0.2%	1.2%	0.0%



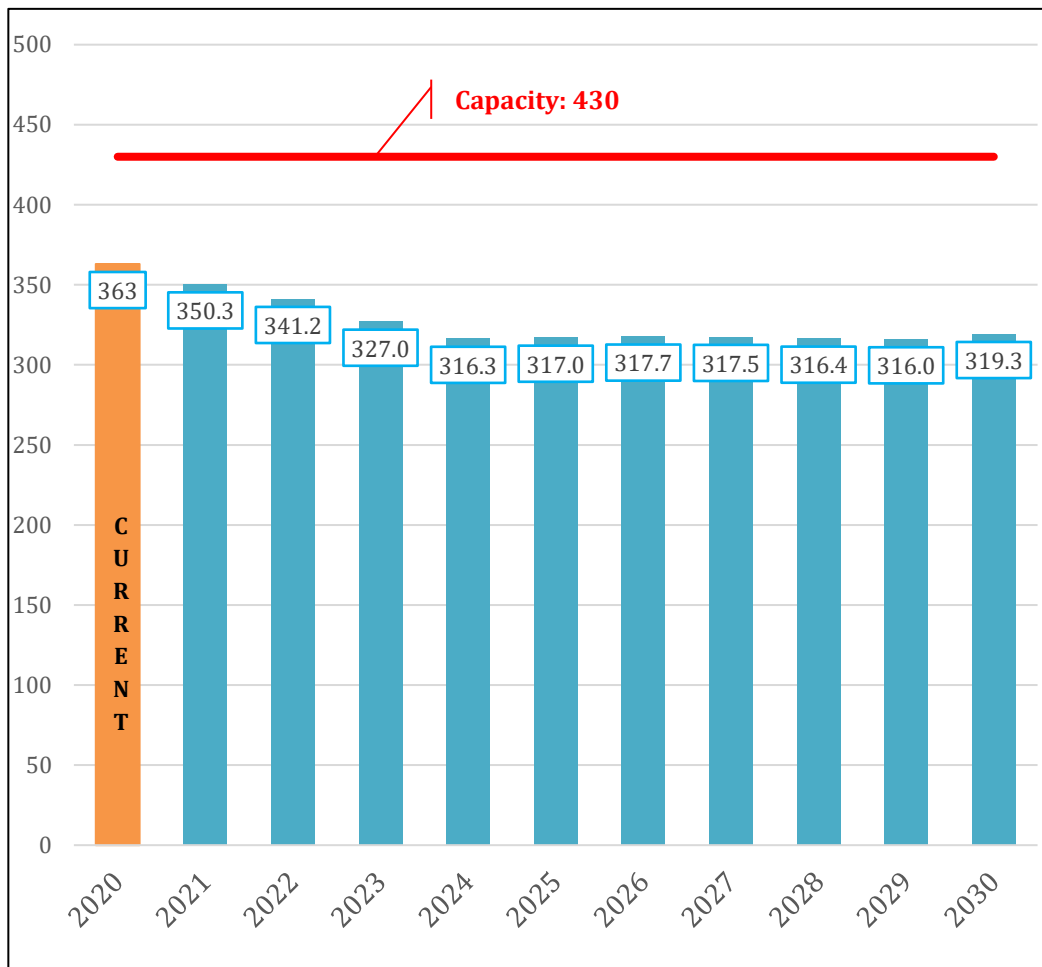
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

Smyth Road School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	11	15.5	15.6	15.3	14.1	14.1	14.9	14.9	14.9	14.9	14.9
K	54	53.0	54.1	53.4	49.1	52.7	52.7	52.7	52.7	52.7	52.7
1	53	54.3	54.3	55.4	54.6	50.3	54.0	54.0	54.0	54.0	54.0
2	58	50.9	52.1	52.1	53.1	52.4	48.2	51.8	51.8	51.8	51.8
3	65	55.8	49.0	50.1	50.1	51.1	50.5	46.4	49.9	49.9	49.9
4	59	63.3	54.4	47.7	48.8	48.8	49.8	49.2	45.2	48.6	48.6
5	63	57.5	61.7	53.0	46.5	47.6	47.6	48.5	47.9	44.1	47.4
Forecasted Resident Students											
Total PK-5	363	350.3	341.2	327.0	316.3	317.0	317.7	317.5	316.4	316.0	319.3

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
-12.7	-9.1	-14.2	-10.7	0.7	0.7	-0.2	-1.1	-0.4	3.3
-3.5%	-2.6%	-4.2%	-3.3%	0.2%	0.2%	-0.1%	-0.3%	-0.1%	1.0%



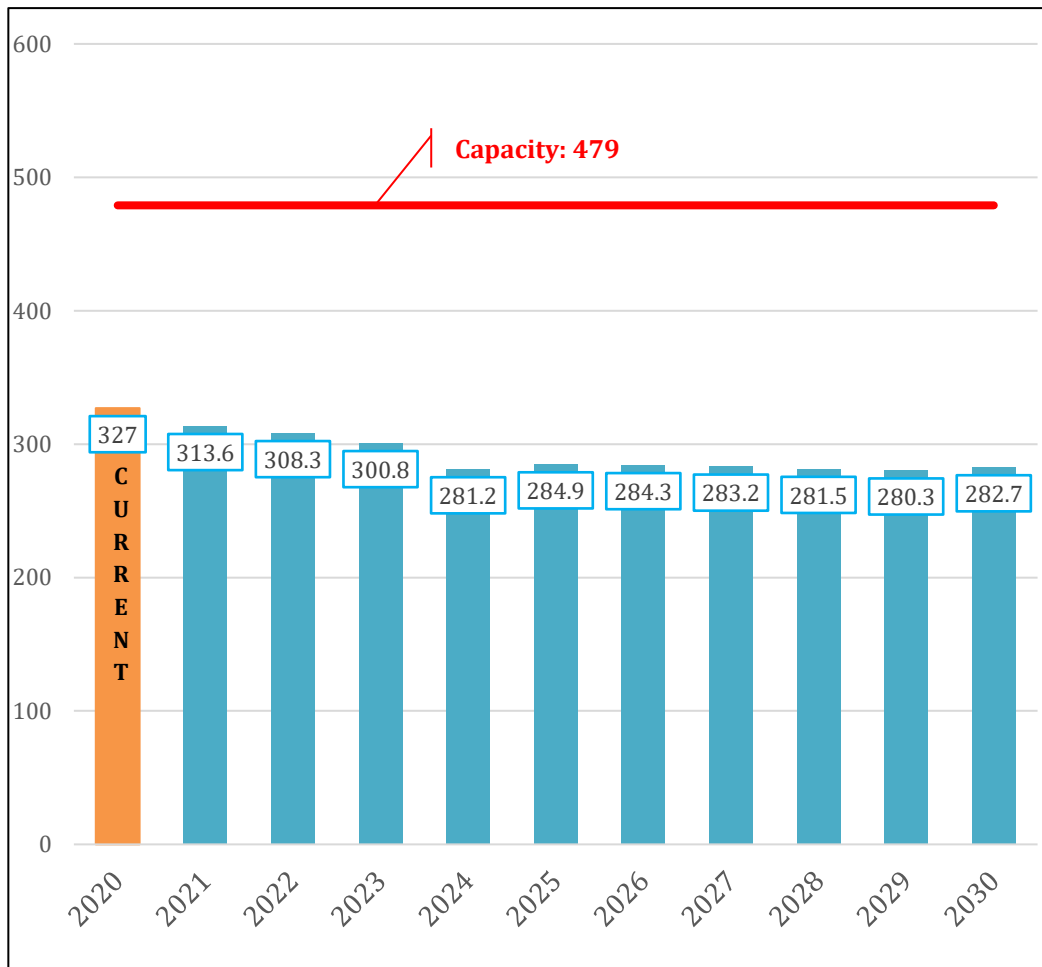
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

Webster School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	4	5.6	5.7	5.8	5.6	6.0	6.5	6.5	6.5	6.5	6.5
K	51	47.0	48.3	48.0	44.5	48.1	47.8	47.8	47.8	47.8	47.8
1	47	48.1	48.5	49.9	49.7	46.2	49.2	49.0	49.0	49.0	49.0
2	67	45.1	46.5	46.9	48.5	48.3	44.3	47.2	47.0	47.0	47.0
3	55	64.5	43.7	45.2	45.8	47.2	46.5	42.7	45.5	45.2	45.2
4	51	53.6	63.1	43.0	44.6	45.1	46.0	45.2	41.6	44.3	44.0
5	52	49.7	52.5	62.0	42.5	44.0	44.0	44.8	44.1	40.5	43.2
Forecasted Resident Students											
Total PK-5	327	313.6	308.3	300.8	281.2	284.9	284.3	283.2	281.5	280.3	282.7

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
-13.4	-5.3	-7.5	-19.6	3.7	-0.6	-1.1	-1.7	-1.2	2.4
-4.1%	-1.7%	-2.4%	-6.5%	1.3%	-0.2%	-0.4%	-0.6%	-0.4%	0.9%



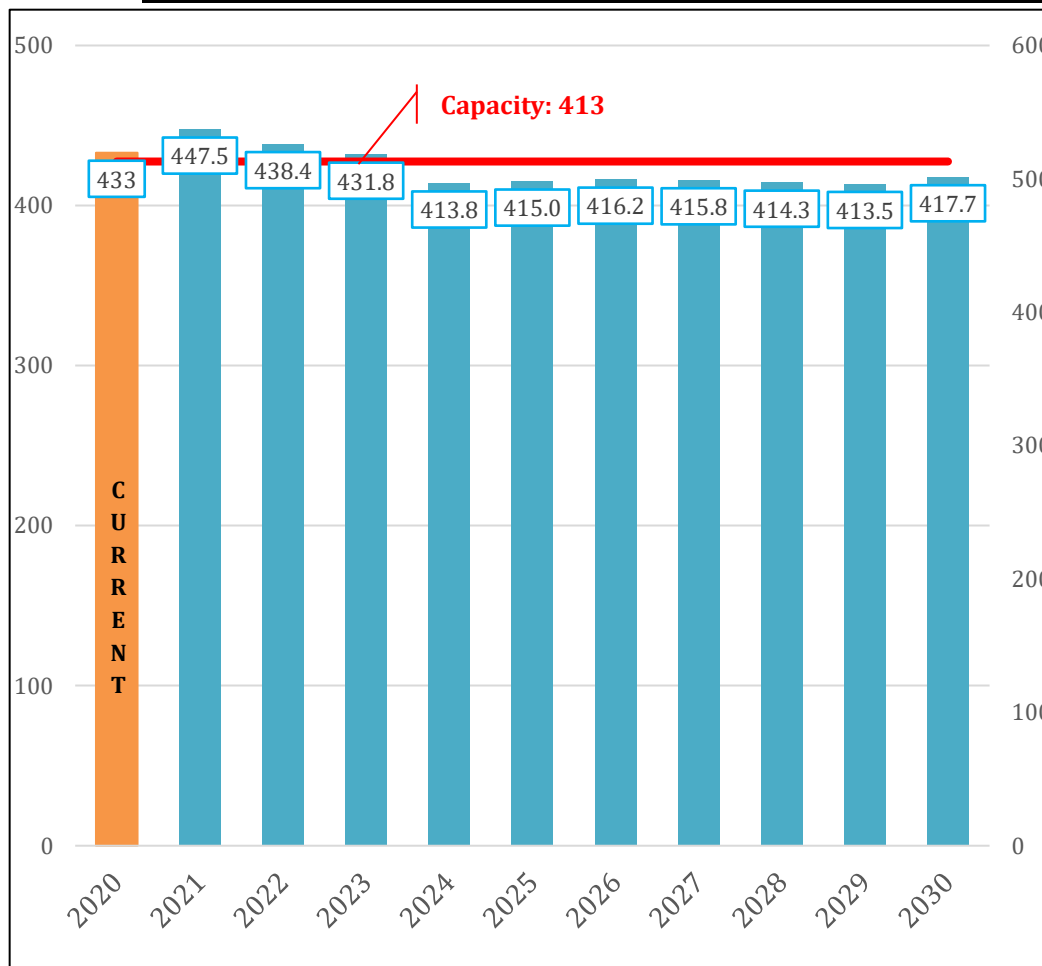
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools

Weston Elementary School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
PK	20	28.2	28.3	27.8	25.6	25.6	27.1	27.1	27.1	27.1	27.1
K	57	68.0	69.4	68.5	63.0	67.7	67.7	67.7	67.7	67.7	67.7
1	68	69.6	69.6	71.0	70.2	64.6	69.3	69.3	69.3	69.3	69.3
2	79	65.3	66.8	66.8	68.2	67.4	62.0	66.5	66.5	66.5	66.5
3	71	76.0	62.8	64.3	64.4	65.7	64.9	59.6	64.0	64.0	64.0
4	73	69.2	74.1	61.2	62.7	62.8	64.0	63.2	58.1	62.3	62.3
5	65	71.2	67.4	72.2	59.7	61.2	61.2	62.4	61.6	56.6	60.8
Forecasted Resident Students											
Total PK-5	433	447.5	438.4	431.8	413.8	415.0	416.2	415.8	414.3	413.5	417.7

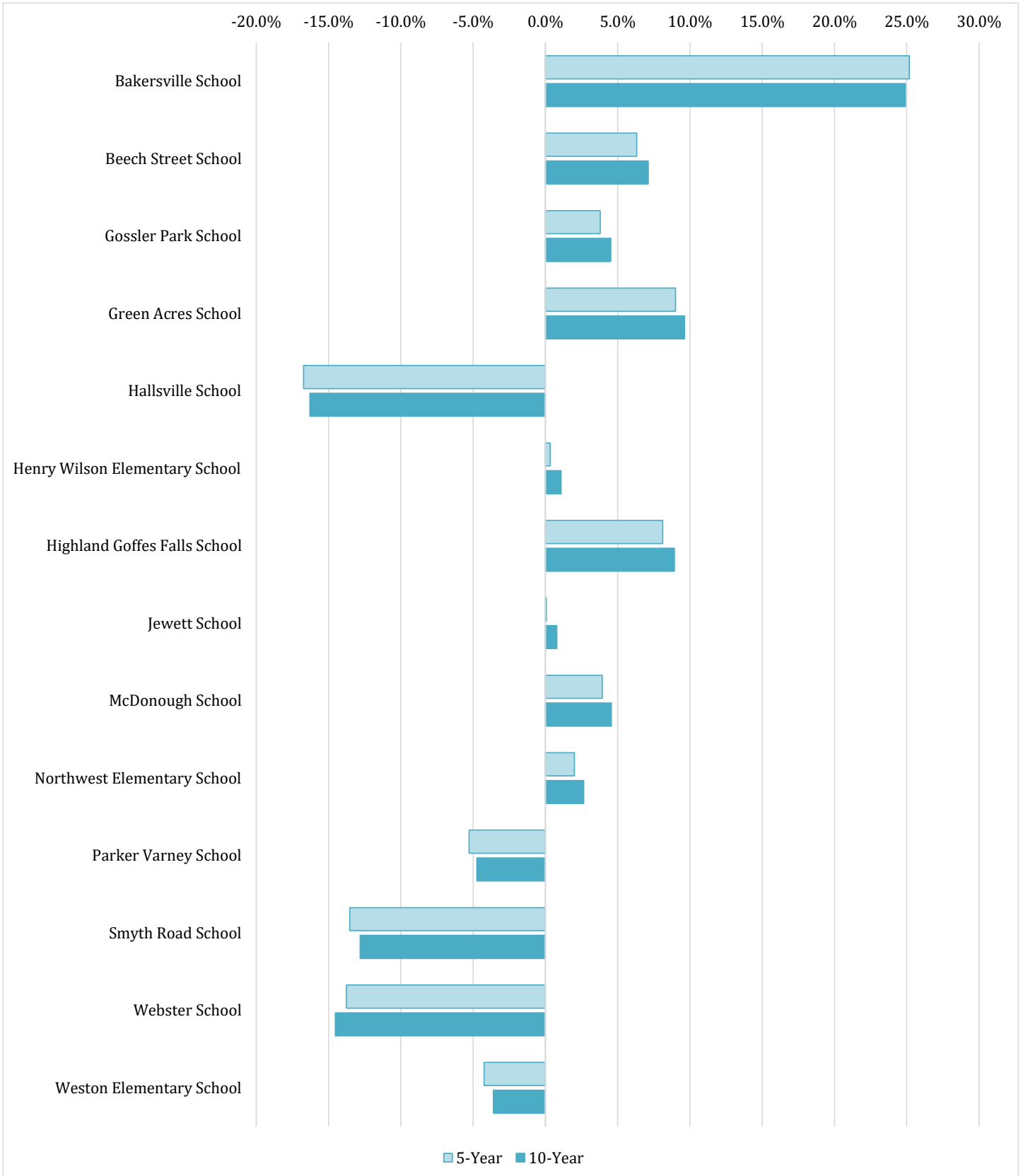
2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
14.5	-9.1	-6.6	-18.0	1.2	1.2	-0.4	-1.5	-0.8	4.2
3.3%	-2.0%	-1.5%	-4.2%	0.3%	0.3%	-0.1%	-0.4%	-0.2%	1.0%



MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Elementary Schools



MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Middle Schools

Henry J McLaughlin Jr Middle School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
5	229	248.6	229.8	198.5	215.1	221.2	222.0	226.3	223.4	205.6	220.2
6	222	211.3	229.4	212.1	184.0	199.4	204.9	204.9	208.8	206.1	189.7
7	257	219.8	209.2	227.2	210.5	182.6	197.8	202.9	202.8	206.7	204.0
8	234	249.7	213.6	203.4	221.3	205.0	177.9	192.2	197.2	197.1	200.9
Forecasted Resident Students											
Total 6-8	713	680.8	652.2	642.7	615.8	587.0	580.6	600.0	608.8	609.9	594.6

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
-32.2	-28.6	-9.5	-26.9	-28.8	-6.4	19.4	8.8	1.1	-15.3
-4.5%	-4.2%	-1.5%	-4.2%	-4.7%	-1.1%	3.3%	1.5%	0.2%	-2.5%



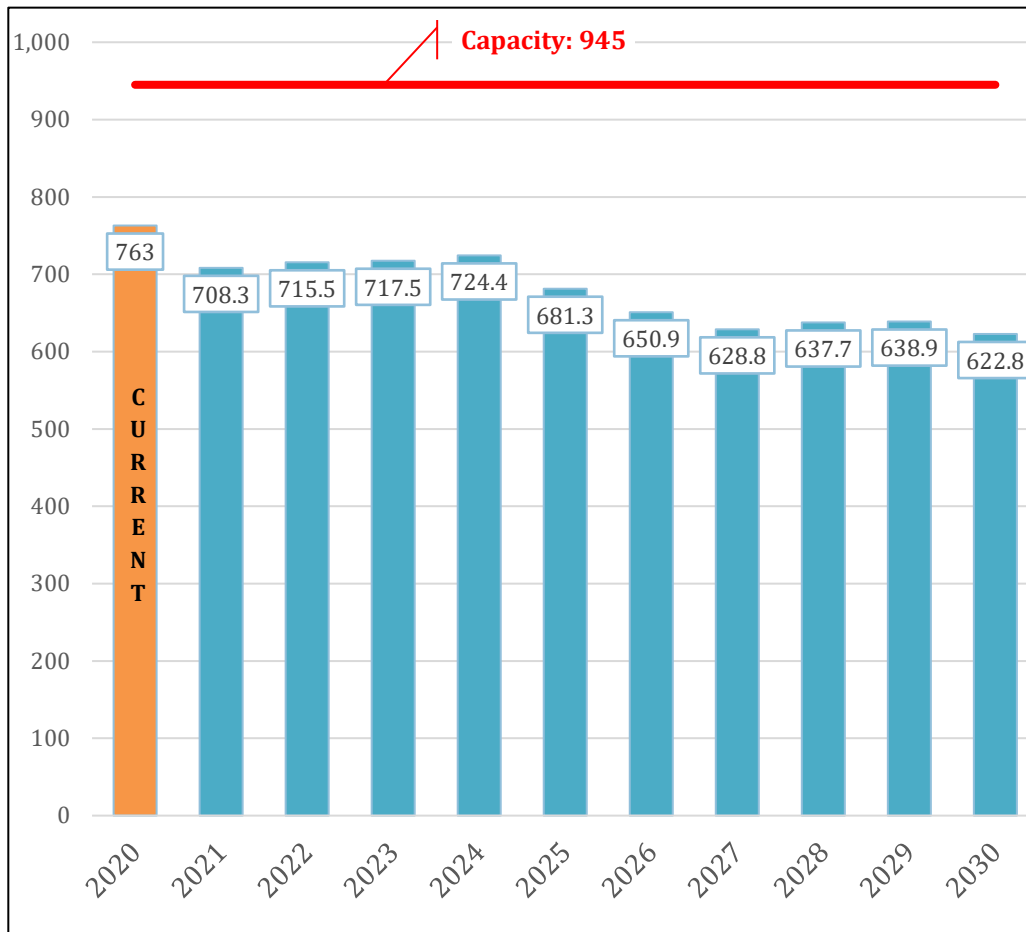
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Middle Schools

Hillside Middle School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
5	249	273.9	265.2	256.7	226.8	232.7	232.6	237.2	234.1	215.2	230.8
6	244	229.7	253.0	245.2	237.4	209.7	214.7	214.6	218.8	215.9	198.5
7	244	241.5	227.6	250.8	243.0	235.2	207.6	212.5	212.4	216.6	213.8
8	275	237.1	234.9	221.5	244.0	236.4	228.6	201.7	206.5	206.4	210.5
Forecasted Resident Students											
Total 6-8	763	708.3	715.5	717.5	724.4	681.3	650.9	628.8	637.7	638.9	622.8

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
-54.7	7.2	2.0	6.9	-43.1	-30.4	-22.1	8.9	1.2	-16.1
-7.2%	1.0%	0.3%	1.0%	-5.9%	-4.5%	-3.4%	1.4%	0.2%	-2.5%



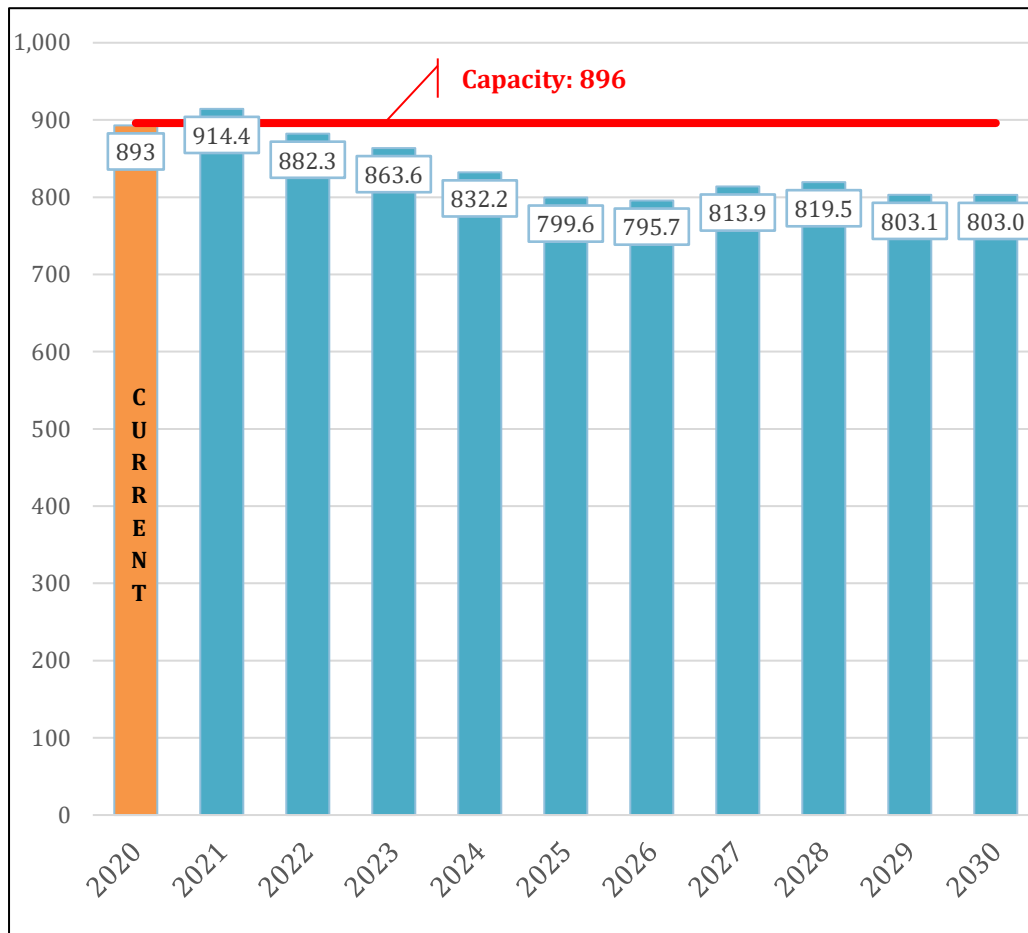
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

Middle Schools

Middle School At Parkside											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
5	249	255.4	223.1	203.1	213.6	218.6	218.6	223.0	220.1	202.4	217.3
6	204	229.7	235.6	206.1	187.6	197.0	201.7	201.7	205.7	203.1	186.7
7	234	201.9	227.4	233.3	204.1	185.7	195.0	199.7	199.7	203.6	201.1
8	206	227.4	196.2	221.1	226.9	198.3	180.4	189.5	194.0	194.0	197.9
Forecasted Resident Students											
Total 5-8	893	914.4	882.3	863.6	832.2	799.6	795.7	813.9	819.5	803.1	803.0

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
21.4	-32.1	-18.7	-31.4	-32.6	-3.9	18.2	5.6	-16.4	-0.1
2.4%	-3.5%	-2.1%	-3.6%	-3.9%	-0.5%	2.3%	0.7%	-2.0%	0.0%



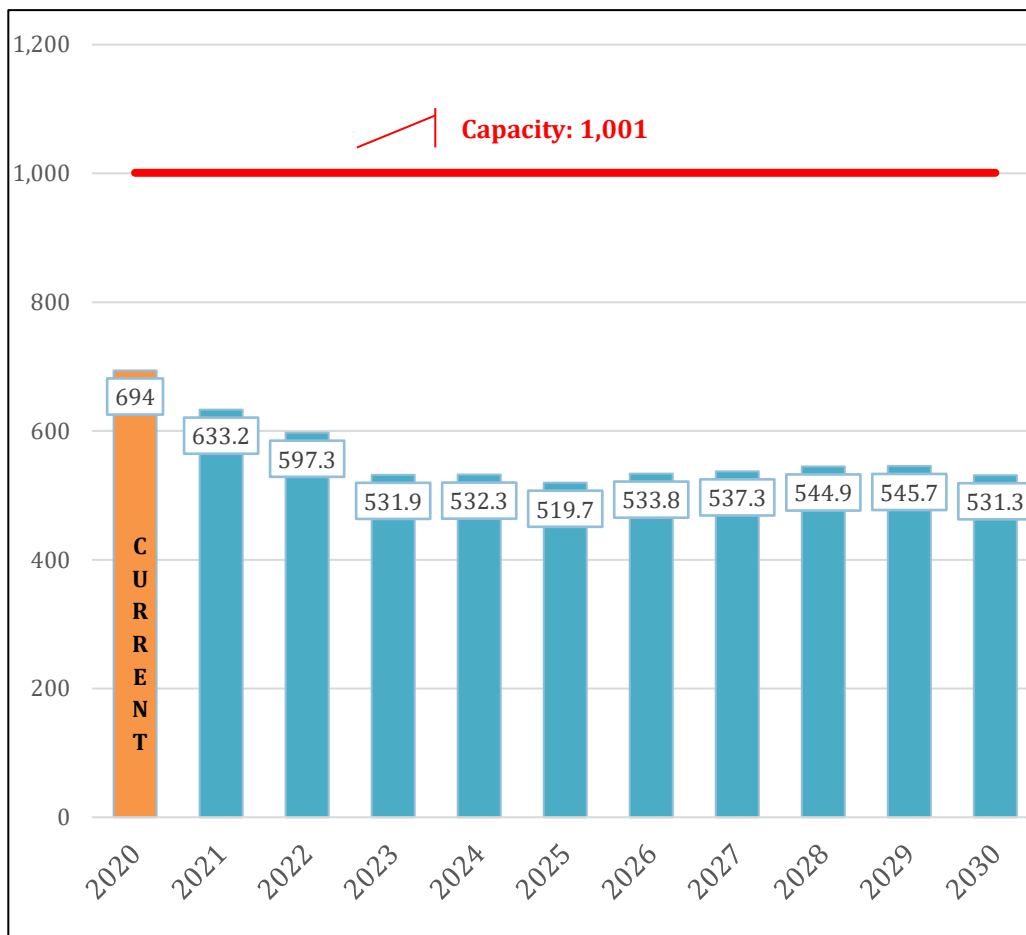
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

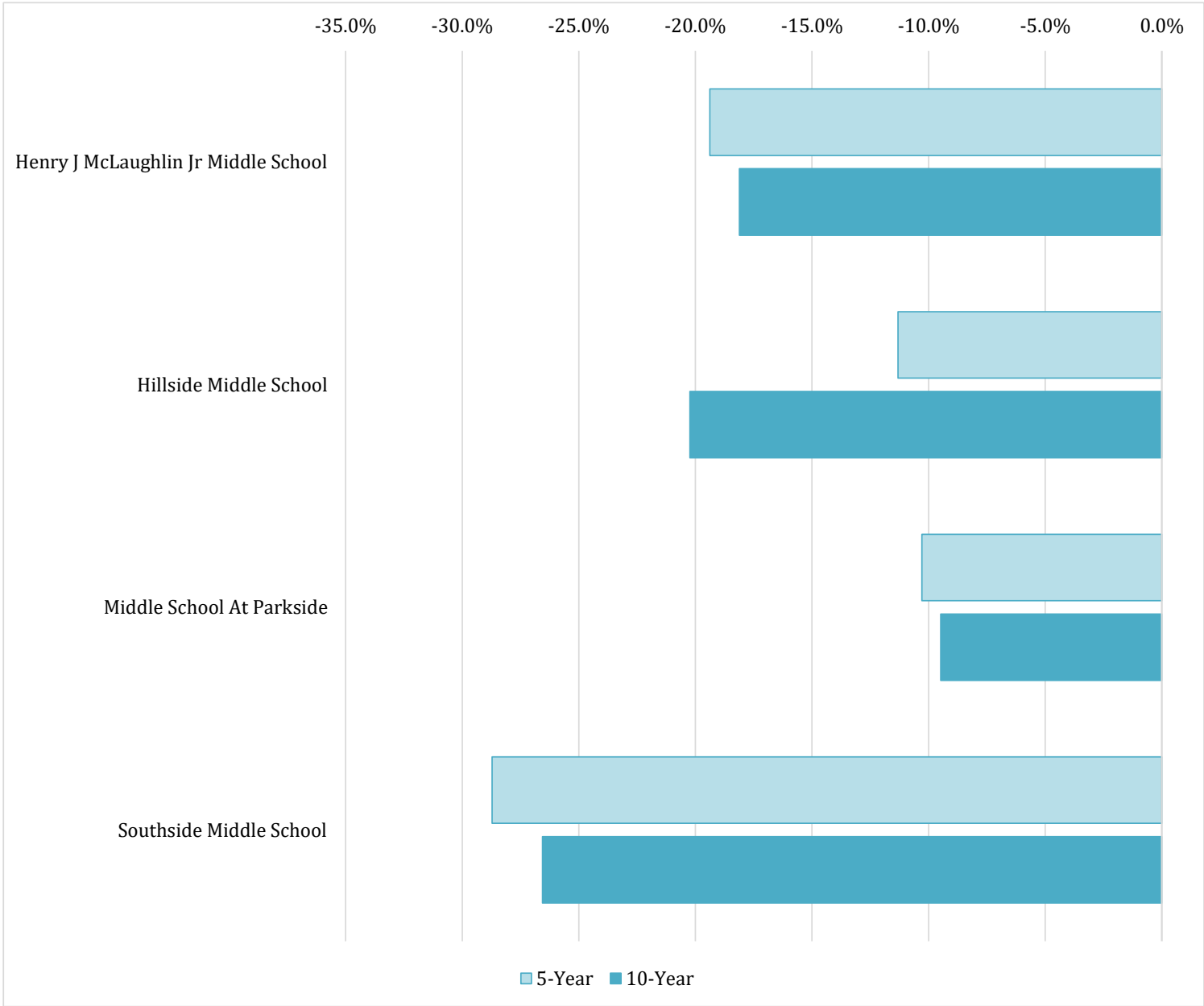
Middle Schools

Southside Middle School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
5	194	206.7	180.7	191.6	192.2	197.7	198.7	202.5	199.8	183.3	195.7
6	238	179.0	190.9	168.7	178.8	178.4	183.6	183.4	186.8	184.4	169.1
7	225	235.6	177.3	189.9	168.0	177.5	177.2	181.7	181.5	184.9	182.5
8	231	218.6	229.1	173.3	185.5	163.8	173.0	172.2	176.6	176.4	179.7
Forecasted Resident Students											
Total 6-8	694	633.2	597.3	531.9	532.3	519.7	533.8	537.3	544.9	545.7	531.3

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
-60.8	-35.9	-65.4	0.4	-12.6	14.1	3.5	7.6	0.8	-14.4
-8.8%	-5.7%	-10.9%	0.1%	-2.4%	2.7%	0.7%	1.4%	0.1%	-2.6%



MANCHESTER SCHOOL DISTRICT
STUDENT FORECAST 2020-30
Middle Schools Projected Change



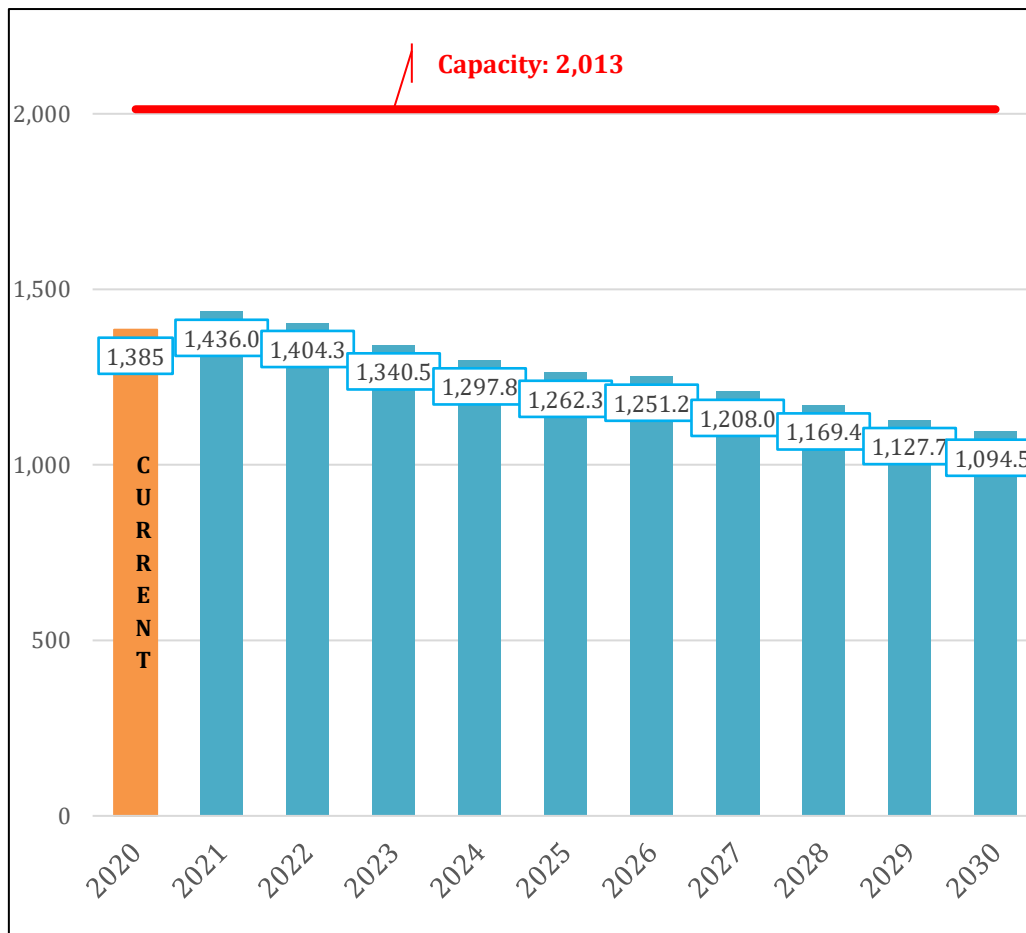
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

High Schools

Manchester Central High School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
9	353	357.8	318.8	323.0	306.2	319.5	312.4	286.2	271.6	278.3	278.2
10	387	344.2	350.3	313.8	317.7	301.3	312.9	304.6	279.0	264.8	271.4
11	350	392.8	350.8	358.7	321.4	325.3	307.3	317.6	309.1	283.2	268.8
12	295	341.2	384.4	345.0	352.5	316.2	318.6	299.6	309.7	301.4	276.1
Forecasted Resident Students											
Total 9-12	1,385	1,436.0	1,404.3	1,340.5	1,297.8	1,262.3	1,251.2	1,208.0	1,169.4	1,127.7	1,094.5

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
51.0	-31.7	-63.8	-42.7	-35.5	-11.1	-43.2	-38.6	-41.7	-33.2
3.7%	-2.2%	-4.5%	-3.2%	-2.7%	-0.9%	-3.5%	-3.2%	-3.6%	-2.9%



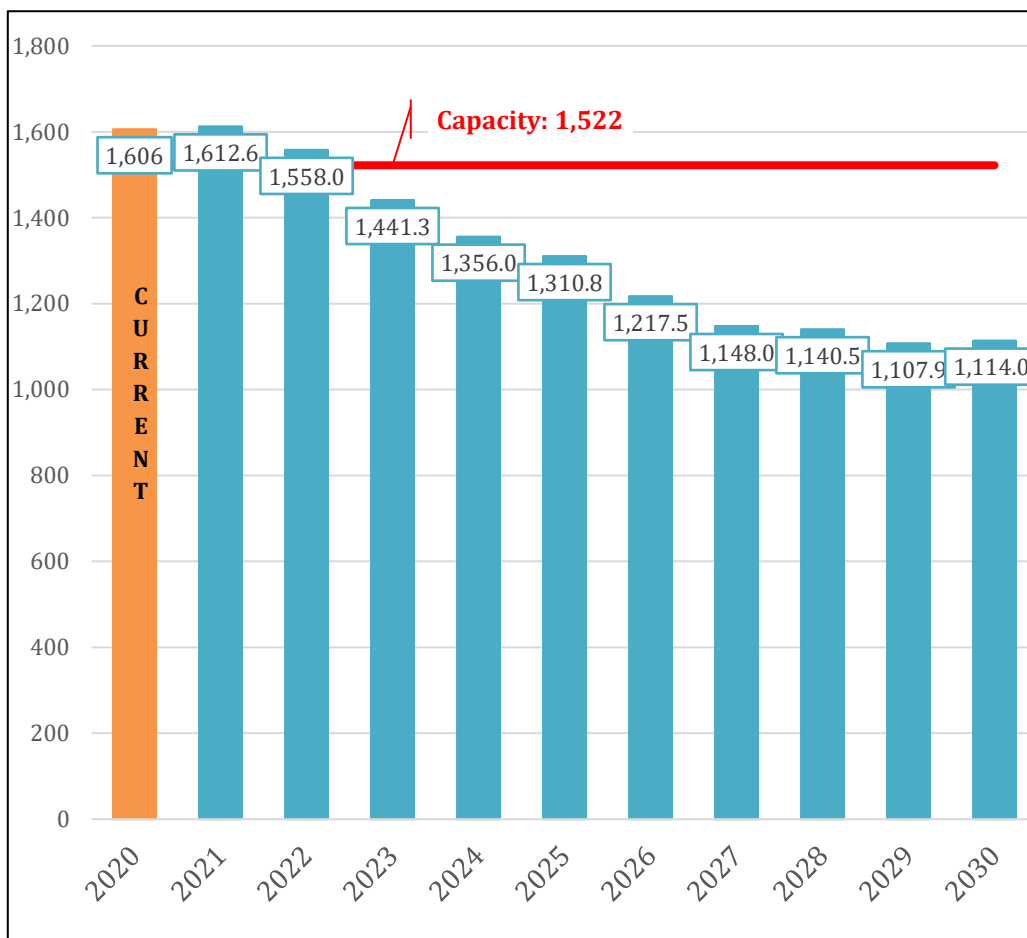
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

High Schools

Manchester Memorial High School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
9	375	363.7	371.8	344.0	283.2	319.6	280.9	278.9	280.4	287.4	287.2
10	461	365.6	356.0	365.9	338.8	278.0	313.5	273.9	271.9	273.4	280.2
11	426	467.9	372.6	364.8	374.9	345.8	284.1	318.2	278.0	276.0	277.5
12	344	415.4	457.6	366.6	359.1	367.4	339.0	277.0	310.2	271.1	269.1
Forecasted Resident Students											
Total 9-12	1,606	1,612.6	1,558.0	1,441.3	1,356.0	1,310.8	1,217.5	1,148.0	1,140.5	1,107.9	1,114.0

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
6.6	-54.6	-116.7	-85.3	-45.2	-93.3	-69.5	-7.5	-32.6	6.1
0.4%	-3.4%	-7.5%	-5.9%	-3.3%	-7.1%	-5.7%	-0.7%	-2.9%	0.6%



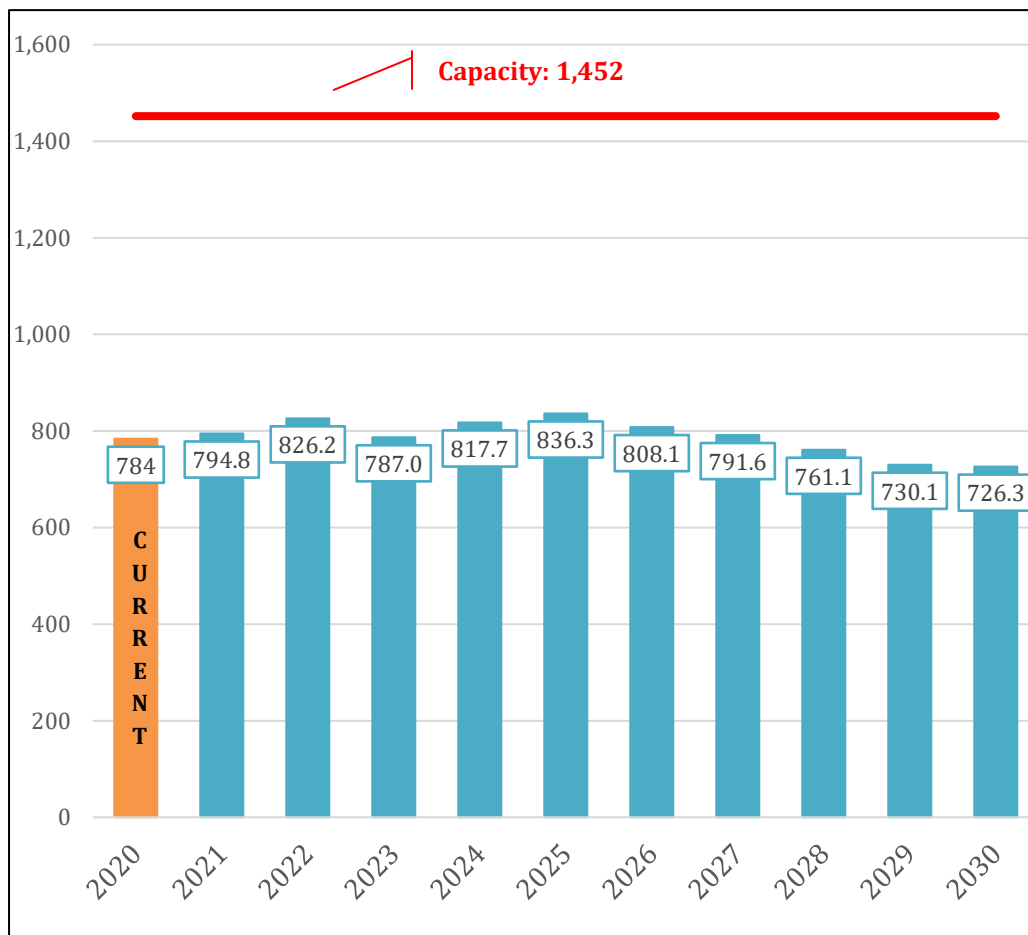
MANCHESTER SCHOOL DISTRICT

STUDENT FORECAST 2020-30

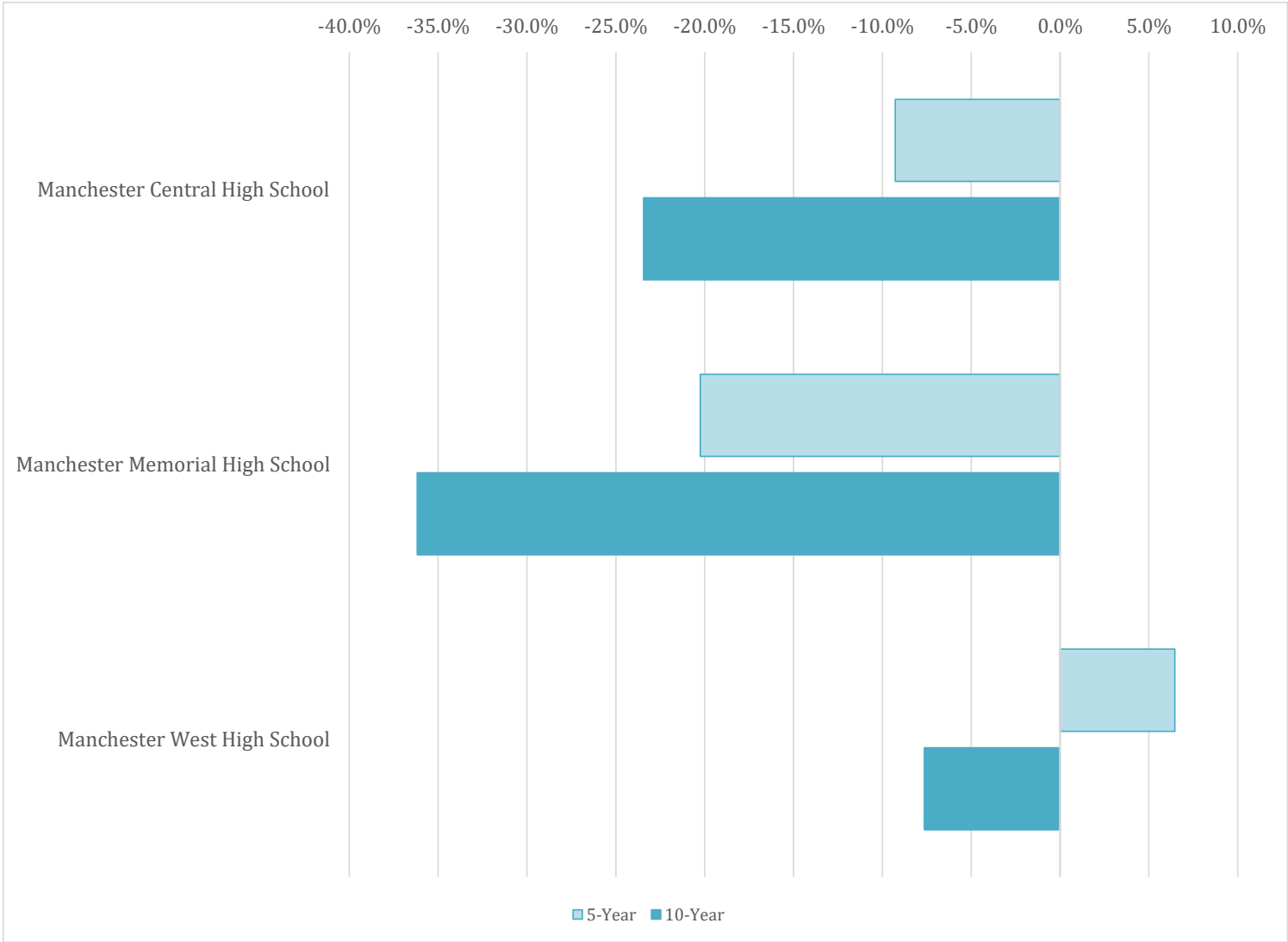
High Schools

Manchester West High School											
Grade	Current	Forecasted Resident Students									
	SY 2020	SY 2021	SY 2022	SY 2023	SY 2024	SY 2025	SY 2026	SY 2027	SY 2028	SY 2029	SY 2030
9	186	200.8	221.7	191.6	215.9	221.2	193.4	175.9	184.8	189.2	189.2
10	227	181.3	195.8	216.5	187.2	210.5	215.7	188.5	171.5	180.2	184.4
11	187	230.4	184.1	199.1	220.1	190.0	213.7	218.9	191.4	174.1	182.9
12	184	182.3	224.6	179.8	194.5	214.6	185.3	208.3	213.4	186.6	169.8
Forecasted Resident Students											
Total 9-12	784	794.8	826.2	787.0	817.7	836.3	808.1	791.6	761.1	730.1	726.3

2020 to 2021	2021 to 2022	2022 to 2023	2023 to 2024	2024 to 2025	2025 to 2026	2026 to 2027	2027 to 2028	2028 to 2029	2029 to 2030
10.8	31.4	-39.2	30.7	18.6	-28.2	-16.5	-30.5	-31.0	-3.8
1.4%	4.0%	-4.7%	3.9%	2.3%	-3.4%	-2.0%	-3.9%	-4.1%	-0.5%



MANCHESTER SCHOOL DISTRICT
STUDENT FORECAST 2020-30
High Schools Projected Change



Appendix C

DRAFT PROPOSAL FOR RAISING THE BAR FOR HIGH SCHOOL GRADUATION CREDITS

DRAFT PROPOSED COURSE SEQUENCE

FRESHMAN YEAR

COURSES	CREDIT
English Language Arts	1.0
World Geography	.50
Math	1.0
Biological Science	1.0
Fitness for Life	.50
World Language	1.0
Arts or CTE	1.0
Freshman Experience/Careers & Pathways	.50
Pathway Electives	1.5
	8.0

PROPOSED REQUIRED COURSES FOR FRESHMAN YEAR

ENGLISH LANGUAGE ARTS: 1.0 credit

- Complete one the following:
 - English Language Arts 9
 - English Language Arts 9 – honors

SOCIAL STUDIES: .50 credit

- Complete one of the following:
 - World Geography
 - AP World Geography (note this is a 1.0 credit course)

MATHEMATICS: 1.0 credit

- Complete one of the following
 - Algebra 1
 - Algebra 1A
 - Geometry (Prerequisite: Successful completion of Algebra 1)

BIOLOGICAL SCIENCE: 1.0 credit

- Complete one of the following:
 - Biology
 - AP Biology
 - Biotechnology
 - Environmental Science
 - AP Environmental Science

FITNESS FOR LIFE: .50 credit

- Fitness for Life

ARTS OR CAREER & TECHNOLOGY EDUCATION (CTE): 1.0 credit

- Complete one of the following:
 - ARTS
 - Visual Arts courses
 - Band
 - Orchestra
 - Choir
 - Theater
 - Speech & Debate
 - CTE
 - Family and Consumer Science courses
 - Business and Marketing courses
 - Carpentry/Mechanics courses
 - Graphics/Printmaking courses
 - All CTE courses offered at MCTHS

WORLD LANGUAGES: 1.0 credit

- Complete one of the following:
 - French 1 or French 2
 - Spanish 1 or Spanish 2
 - Possible other offering
 - American Sign Language 1
 - If dual-immersion student, take one of the following:
 - AP French
 - AP Spanish

FRESHMAN SUCCESS: .50 credit

- Complete both of the following:
 - Freshman Experience: .25 credit
 - Careers & Pathway Planning: .25 credit

- Note: These courses are taken together. Two teachers, but students switch at the term.

PATHWAY ELECTIVES: 1.5 credits

- Manchester High School: Academy Pathways
- Manchester Career and Technology High School: CTE Certification Pathways
- Manchester School of the Arts: Arts Specialization Pathway

SOPHOMORE YEAR

COURSES	CREDIT
English Language Arts	1.0
World Civilizations	.50
Math	1.0
Physical Science	1.0
World Language	1.0
Health	.50
Physical Education Elective	.50
Arts or CTE	1.0
Pathway Electives	1.5
	8.0 Credits

PROPOSED REQUIRED COURSES FOR SOPHOMORE YEAR

ENGLISH LANGUAGE ARTS: 1.0 credit

- Complete one of the following:
 - English Language Arts 10
 - English Language Arts 10 – honors

SOCIAL STUDIES: .50 credit

- Complete one of the following:
 - Ancient World Civilizations
 - Modern World Civilizations
 - AP World History (note: this is a 1.0 credit course)

MATHEMATICS: 1.0 credit

- Complete one of the following:
 - Algebra 1B
 - Geometry (prerequisite: successful completion of Algebra 1)
 - Algebra 2 (prerequisite: successful completion of Algebra 1 & Geometry)

PHYSICAL SCIENCE: 1.0 credit

- Complete one of the following:
 - Chemistry
 - Chemistry Honors
 - Physics
 - AP Physics 1 (Recommended Prerequisites: Successful completion of geometry and be concurrently taking Algebra II)
 - Physics with Technology
 - Geology
 - Earth Systems
- OR complete two of the following (.50 credit each):
 - Dual Enrollment Physics
 - Dual Enrollment Earth Science
 - Dual Enrollment Geology

WORLD LANGUAGES: 1.0 credit

- Complete one of the following:
 - French 2 or French 3
 - Spanish 2 or Spanish 3
 - American Sign Language 2
 - Dual language immersion students take one of the following:
 - French College Dual Enrollment
 - Spanish College Dual Enrollment

HEALTHY LIFESTYLES: 1.0 credit

- Complete both of the following:
 - Physical Education Elective: .50 credit
 - Health or Health Science: .50 credit

ARTS **OR CAREER & TECHNOLOGY EDUCATION (CTE): 1.0 credit**

- Complete one of the following:
 - ARTS
 - Visual Arts courses
 - Band
 - Orchestra
 - Choir
 - Theater
 - Speech & Debate

- CTE
 - Family and Consumer Science courses
 - Business and Marketing courses
 - Carpentry/Mechanics courses
 - Graphics/Printmaking courses
 - All CTE courses offered at MCTHS

PATHWAY ELECTIVES: 1.5 credits

- Manchester High School: Academy Pathways
- Manchester Career and Technology High School: CTE Certification Pathways
- Manchester School of the Arts: Arts Specialization Pathway

JUNIOR YEAR

COURSES	CREDIT
English Language Arts	1.0
U.S. History	1.0
Math	1.0
Computer Science	.50
Social Studies Elective	.50
Pathway Electives	4.0
	8.0 Credits

PROPOSED JUNIOR YEAR REQUIRED COURSES

ENGLISH LANGUAGE ARTS: 1.0 credit

- Complete one of the following:
 - English Language Arts 11
 - AP English Language & Composition

SOCIAL STUDIES: 1.0 credit

- Complete one of the following:
 - United States History
 - AP United States History
 - Approved dual enrollment courses

MATHEMATICS: 1.0 credit

- Complete one of the following:
 - Geometry
 - Applied Geometry
 - Algebra II
 - Trigonometry
 - Pre-Calculus
 - Statistics, AP Statistics, or Dual Enrollment Statistics

COMPUTER SCIENCE: .50 credit

- Complete one of the following
 - Coding

- Computer Science Fundamentals
- Dual enrollment Coding or Computer Science

SOCIAL STUDIES ELECTIVE: .50 credit

- Complete one of the following:
 - Psychology
 - Sociology
 - Race and Ethnic Issues in America
 - Ethnic Studies
 - Ancient World Civilizations (can count only if this course was not taken for 10th grade Social Studies credit)
 - Modern World Civilizations (can count only if this course was not taken for 10th grade Social Studies credit)
 - Note: If a student successfully completed a full year AP Social Studies class during the Freshman (AP Geography) or Sophomore (AP World History) year, this elective credit has been fulfilled

PATHWAY ELECTIVES: 4.0 credits

- Manchester High School: Academy Pathways
- Manchester Career and Technology High School: CTE Certification Pathways
- Manchester School of the Arts: Arts Specialization Pathway

SENIOR YEAR

COURSES	CREDIT
English Language Arts	1.0
Civics	.50
Economics	.50
Math/Science Enrichment	1.0
Financial Literacy & Adult Roles	.50
Social Studies Elective	.50
Pathway Electives	4.0
	8.0 Credits

PROPOSED SENIOR YEAR REQUIRED COURSES

ENGLISH LANGUAGE ARTS: 1.0 credit

- Complete one or more of the following:
 - English Language Arts 12: 1.0 credit
 - AP English Language and Literature: 1.0 credit
 - Dual Enrollment English: .50 credit
 - Dual Enrollment Technical Writing: .50 credit
 - Dual Enrollment Communication/Public Speaking: .50 credit
 - Multicultural Literature 1: .50 credit
 - Multicultural Literature 2: .50 credit

CIVICS: .50 credit

- Complete one of the following:
 - U.S. Government & Law
 - AP United States Government & Politics
 - Dual enrollment U.S Government

- Dual enrollment Political Science

ECONOMICS: .50 credit

- Complete one of the following:
 - Economics
 - AP Microeconomics
 - AP Macroeconomics
 - Dual enrollment Economics

MATH/SCIENCE ENRICHMENT: 1.0 credit

- Complete one additional credit (1.0) in *either* math or science. Can be a combination of both. Cannot count courses already taken for math and science credits. This course should be aligned with the Comprehensive Guidance Pathways Plan with consultation between the student, parent, and comprehensive guidance counselor.

FINANCIAL LITERACY: .50 credit

- Complete the following course:
 - Financial Literacy & Adult Roles

SOCIAL STUDIES ELECTIVE: .50 credit

- Complete one of the following:
 - Psychology, AP Psychology, or Dual Enrollment Psychology
 - Sociology, AP Sociology, or Dual Enrollment Sociology
 - Race and Ethnic Issues in America
 - Ethnic Studies
 - Ancient World Civilizations (can count only if this course was not taken for 10th grade Social Studies credit)
 - Modern World Civilizations (can count only if this course was not taken for 10th grade Social Studies credit)
 - Note: If a student successfully completed a full year AP Social Studies class during the Freshman (AP Geography) or Sophomore (AP World History) year, this elective credit has been fulfilled

PATHWAY ELECTIVES: 4.0 credits

- Manchester High School: Academy Pathways
- Manchester Career and Technology High School: CTE Certification Pathways
- Manchester School of the Arts: Arts Specialization Pathway

**REQUIRED CREDITS FOR MANCHESTER HIGH SCHOOL, MANCHESTER CAREER & TECHNOLOGY
HIGH SCHOOL & MANCHESTER SCHOOL OF THE ARTS DIPLOMA:**

- **Class of 2022: 20 Credits**
- **Class of 2023: 22 Credits**
- **Class of 2024: 24 Credits**
- **Class of 2025: 26 Credits**
- **Class of 2026 & thereafter: 28 Credits**

Required Courses	Total Credits
ENGLISH LANGUAGE ARTS	4.0
SOCIAL STUDIES	4.0
MATH	3.0
SCIENCE	2.0
SCIENCE OR MATH ENRICHMENT	1.0
WORLD LANGUAGE	2.0
COMPUTER SCIENCE	.50
ARTS	1.0
CAREER & TECHNICAL EDUCATION	1.0
FRESHMAN EXPERIENCE/CAREERS & PATHWAYS	.50
HEALTHY LIFESTYLES	1.5
FINANCIAL LITERACY & ADULT ROLES	.50
CIVICS	.50
ECONOMICS	.50
PATHWAY ELECTIVES	7.0

Appendix D

MAGNET SCHOOL THEME CONSIDERATIONS

Middle School Considerations

- Visual and Performing Arts Magnet School
 - All students learn about the arts through arts integrated experiences in all classes on campus
 - If possible, utilize Artists-in-Residence
 - Arts focused service-learning experiences in the community
 - Visual and performing arts classes will be offered
 - The school will have an official partnership with the Manchester School for the Arts High School
 - All students will receive daily lessons in leadership and character development based upon Dr. Stephen R. Covey's, *The 7 Habits of Highly Effective People*, and *Leader in Me*.
- Leadership in Technology Magnet School.
 - One-to-one technology is integrated in daily core instruction
 - Basic coding skills and app development classes are offered
 - Students become problem solvers who think critically and creatively, and use technology as a tool for collaboration and innovation
 - All students receive daily lessons in leadership and character development based upon Dr. Stephen R. Covey's, *The 7 Habits of Highly Effective People*, and *Leader in Me*.
- Global Studies/Language Immersion Magnet School
 - All students receive daily lessons in leadership and character development based upon Dr. Stephen R. Covey's, *The 7 Habits of Highly Effective People*, and *Leader in Me*.
 - Language Immersion will be a continuation of the Dual Language Immersion programs from the Elementary schools with advanced level courses and Social Studies courses taught in the immersion language.
 - Students who have not attended an immersion elementary will enroll in a World Language class each year
 - All students will participate in a Global Studies course. This course will explore world religions, cultures, and global issues. It will be a project-based course and include a service-learning component.

Elementary School Considerations

- Environmental and Life Science Magnet School
 - An Environmental and Life Science school engages students in daily instruction in core content areas delivered through the lens of environmental and life sciences
 - Students at each grade level engage in multidisciplinary, Project-Based Learning through the completion of Environmental Challenge Inquiry Units which focus on four broad themes
 - Living things
 - Earth science/solar system
 - Environmental/community connections
 - Weather and climate
 - These units will be grade-specific, standards-aligned, and competency-based learning activities
- Dual-language Immersion Magnet School (French or Spanish)
 - French language program will include a partnership with the French Consulate who is in Boston
 - These two schools will be New Hampshire's first dual immersion schools
 - This language immersion program offers students an opportunity to develop language proficiency in French and English and Spanish and English
 - Core instruction is provided by two teachers (half day with half the class and then switch), both of whom teach all students, one teaching in English, and one teaching in French or Spanish
 - "Specials" are taught in English; however, the teachers embed French or Spanish cultural connections during instruction
 - The immersion program begins in 1st grade and continues through 5th grade
 - A designated middle school will continue the program with advanced French or Spanish, along with Social Studies classes taught in French
 - By 9th grade, students should be able to take AP French or Spanish and pass the AP French or Spanish Language exam
 - During grades 10-12, students will continue with college level dual enrollment courses. The goal is to have students earn the equivalent of a college minor in French or Spanish by the time they graduate from high school, as well as be a fluent French or Spanish speaker
- Creative Arts and Science Magnet School

- This program has an emphasis on learning and expression through the integration of the arts in all areas
- The Arts teacher and Science teacher work with classroom teachers to bring the arts into math, science, social studies, and reading-language arts
- There should be an addition of a science learning lab and a specialized science teacher. This will allow students to have expanded hands-on science instruction beyond what is taught in the regular classroom
- Design and Computer Sciences Magnet School
 - Prepares students for future success by introducing them to foundational computer science knowledge and competencies.
 - Students in all grade levels engage in instruction using coding languages and concepts
 - This program fosters the development of critical non-cognitive skills such as perseverance, decision-making, and self-motivation
- Play and Ingenuity Magnet School
 - This Magnet has play theory rooted in the curriculum
 - Teachers use play and games to teach students about strategy, cooperation, communication skills, and problem-solving
 - In grades K-2, learning comes from playing games
 - In grades 3-5, it evolves into learning more about game theory and game design, helping students understand more complex concepts
 - This approach to learning offers developmentally appropriate challenges and enhances academic and socio-emotional proficiency
- Gifted and Talented (GT)/Academically or Intellectually Gifted (AIG) Basics Magnet School
 - The magnet program for GT is rooted in the belief that every student has gifts and talents that are valued and nurtured through this model
 - Students in this GT model explore an extensive menu of electives, all of which are designed to develop students' strengths and interests
 - Students in the AIG Basics program are clustered with other AIG-identified students for reading-language arts and/or math according to their individual learning assessments/data
 - AIG teachers participate in in extensive AIG professional learning
- Leadership Magnet School

- Good leadership requires more than natural ability. Students learn to communicate effectively, collaborate, make ethical decisions, and motivate others
- Utilize Covey's *Leader in Me* as the core leadership principles
- Service-learning components
- Integrating the 7-Habits throughout the core curriculum
- Entrepreneurial Design Magnet School
 - Application of a mindset allowing students to be forward-thinking problem-finders and solvers
 - Focus on perseverance, creativity, innovation, and communication
 - Students use content they learn to identify a problem in their school, community, state, country, or world, and create solutions involving a good or service while learning from business and organizational partnerships
- Montessori/Project-Based-Learning Magnet School
 - The Montessori approach offers a nurturing and supportive learning environment developing the whole child, including social, emotional, academic, and physical needs
 - Curriculum is delivered using the Montessori philosophy and methods
 - Student-led Project-based Learning allows students to gain knowledge and skills by investigating and responding to complex questions or challenges